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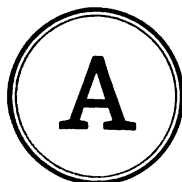
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BY WILLIAM S. DAVIS.

With One Pen Drawing.

WHILE we hear rather less now about lantern slides than was once the case—owing no doubt to the popularity of the “Movies,” and improved forms of reflecting projectors—the beauty of a well made slide is just as great as ever, and considering what attractive form of home entertainment is possible with a good collection of original work to select from, it seems that more amateurs should take an interest in making them.

Both methods and apparatus have been greatly simplified within a few years, and the cost of a satisfactory lantern reduced as well. Excellent projection apparatus for either oil, acetylene gas, or fitted with efficient mazda bulbs, and capable of giving a bright picture from six to eight feet on the screen, are advertised by several reliable makers at prices from about \$20.00 and up. In some of the slightly higher priced grades a combination of several features are offered, such as an opaque projector and regular lantern in one, or attachments for converting into a complete bromide enlarging apparatus for any negatives of suitable size for the condensers to illuminate—a practical feature for users of small cameras. If unnecessary waste is avoided, finished slides can be produced at a cost not exceeding 60 to 70 cents per dozen for materials, including plates, blank “cover glass,” mats and binding.

Many of the popular pocket cameras furnish negatives of suitable size for contact printing, which is practically as simple as making positives upon developing-paper; while the production of slides in the camera from larger negatives is no more difficult than enlarging—in fact the principle is much the same, only in making a slide we focus for a smaller instead of a larger image from the negative, and in some kinds of enlarging apparatus this can be done, so when that is the case it is only necessary to use a kit in the holder that will take a lantern plate to adapt it for this purpose. Almost any camera (except a fixed-focus box) can be employed, however, as explained later.

In mentioning certain details in the technical notes which follow I am assuming that some readers may not be acquainted with any portion of the work.

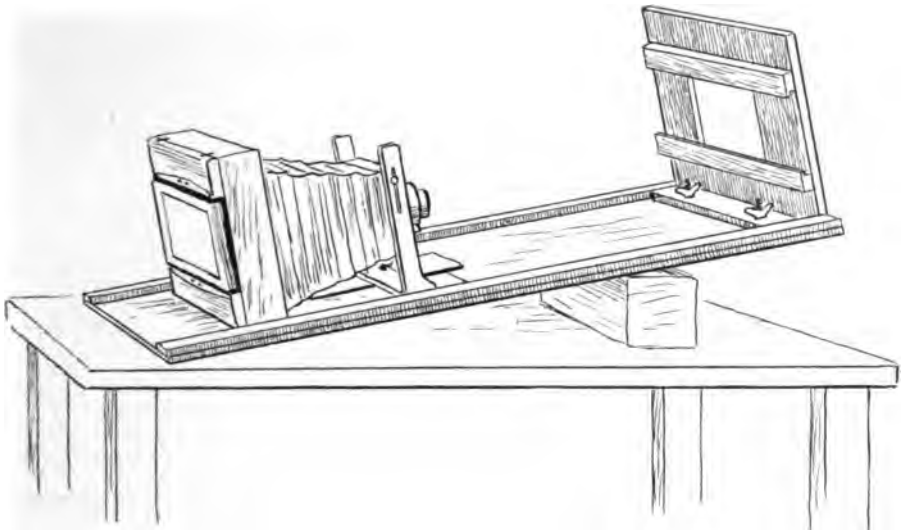
To start with then, the standard American size for slides is $3\frac{1}{4} \times 4$ inches, but the actual measurement of the picture is kept within $2\frac{3}{4} \times 3$, because this is the largest rectangle which can be illuminated by the condensers commonly used, these being of 4 or $4\frac{1}{2}$ inch diameter. While it is much better, from an artistic standpoint, to vary the proportion of the mat opening to suit the subject, it is well to keep the size uniform in one direction, say 3 inches in length for an oblong, and $2\frac{3}{4}$ in height for a vertical composition, regardless of how much it varies in the other direction.

The leading supply houses furnish a variety of good plates for the purpose, but these may be divided into two general classes—one a very slow grade, similar in speed and manipulation to “Gaslight” papers, and like them intended mainly for contact printing, and another considerably faster (more like bromide paper), and on this account generally preferred when slides are made in the camera. In general the slow grade tend to give more contrast than the others, so the worker who takes advantage of this fact can exercise considerable control over the result obtained from either a hard or soft negative.

As a substitute for plates Velox Lantern-Slide Film (similar in speed and manipulation to the paper of the same name) is available for the worker who prefers slides of the least possible bulk with freedom from possibility of breakage. These are mounted a little differently from those on glass plates, special “Frames” for the purpose being supplied by the makers, but the total cost is about the same whichever kind are used. All can be safely handled in orange or bright ruby light.

Much has been said as to the technical requirements of the negatives used, but the main thing is good tone gradation, with soft transparent shadows, and fairly sharp definition, the degree depending somewhat upon the size to be projected, and personal taste, but of course much diffusion would not prove desirable when one considers how much they are magnified on the screen. Any mechanical defects, like scratches or pin holes, should be carefully spotted before printing, but once more I would insist upon the importance of getting good tonal gradation in the slide. The “soot and whitewash” effect has more than once been noted as a failing of many of our slide makers, and there is really no excuse for it, as there is no reason why all the quality of a good negative should not be transferred to the transparency in even greater perfection than is possible with a paper print. The combination of both softness and brilliancy which can be shown in a first-class slide is particularly notable when the subject happens to be a snow scene or surf view.

Now for their production. For contact printing it is best to use a 4×5 frame fitted with plain glass, the extra size allowing one to center any desired part of the negative on the slide. If glass negatives are to be printed, take a piece of thin cardboard the same size as inside measurement of frame and cut an opening to fit the negative, so when both are in place the latter will not slip



about. Next take a paper mat the size of lantern plate, and cut another opening a trifle larger than it is intended the finished picture shall be. It is a good plan to have several of these with different shaped cut-outs, the object being to enable one to quickly center the picture as it is wanted when finished. When the subject-matter desired is located, lay a transparency plate face down upon the mat in such position that the outside edges of each will coincide, and clamp back of printing frame.

Almost any form of artificial light will do, but perhaps the most uniform and convenient is either a 16 c.p. electric, or flat wick kerosene lamp, placed in a ventilated box provided with a door to open for exposing. By adding a pane of orange glass it will also serve to develop by.

If slow grade of plates are used the printing-frame may be placed at 6 or 8 inches from the light, but with the faster ones 24 inches is better.

The length of exposure cannot be indicated off-hand, as it depends upon strength of light, distance from light, grade of plate, opacity of negative—so must be learned by trial. By keeping the first three factors uniform as much as possible the matter becomes simplified. One method can be adopted, however, which will save much waste caused by guesswork, and this is to select some standard brand of developing paper, and expose under identical conditions a sheet of paper and one plate in a series of steps (say from 5 seconds up) by covering the face of frame with a card, and moving this about half an inch each time. Upon development the comparative speed of the plate and paper is determined, and once this is known it is only necessary to use a trial strip of the same paper with any negative to fix the time required for the lantern plate. Supposing for example the trial showed the paper to be three-fourths the speed of the plate, and a test exposure upon a strip of paper of 32 seconds proved correct with a certain negative, one would then give the plate 24 seconds, with like results.

THE PHOTOGRAPHIC TIMES

Aside from the formulas which accompany every package of plates, practically any developer suitable for bromide or gaslight paper will serve for slides. One of the stand-bys with many workers, however, is hydrochinon, and it is especially good for the more rapid plates, as it gives a good clean deposit free from fog in the high-lights. A reliable formula is prepared as follows:

Water.....	4 ozs.
Hydrochinon.	15 grs.
Sodium Sulphite, dry.....	60 "
Potass. Meta-bisulphite	15 "
Potass. Carbonate	60 "

When printing very soft negatives, or it is desired for any other reason to secure additional contrast, from 5 to 10 drops of a 10% solution of bromide may be added to each ounce of whatever developer is used.

The tone of a side can be varied to some extent by altering the exposure and amount of bromide used, a pure black being obtained when just enough exposure is given to secure detail in the high-lights, followed by full development, and a warmer tone by increasing exposure considerably beyond the normal, then using an extra amount of bromide in the developer to prevent flatness and fog.

It is often a matter of uncertainty with beginners to determine when a slide has attained just the right strength in the developer, and allow for the apparent loss in the fixing-bath, caused by the removal of the milky unexposed silver, but there are several ways of assistance in securing the desired end. One is to keep at hand a finished slide known to be satisfactory. By comparing one just fixed with this (holding both up to a sheet of ground-glass placed before the light,) the photographer can easily tell whether the rest will need more or less development, and with a little thought about the general tonal quality of each subject, this plan is helpful even though every exposure is from a different negative. Another excellent plan for pictorial workers, recommended some years ago by one of the best amateur slide makers, is to slightly over-develop, to insure sufficient density, then immediately after fixing clear with Farmer's reducer until just the right effect is secured. The reducer is prepared by adding a few drops of saturated solution of potass. ferricyanide to sufficient plain hypo (about 1 to 10) to cover the slide when laid in a clean dish; mixing just before use. As it is easy to follow its action in daylight or bright artificial light the results should be certain. I may say now, however, that a good slide will show very little clear glass when laid upon a sheet of white paper, only the highest lights being so represented, while the rest is composed of delicate gradations up to the deep shadows, which are translucent enough for the lantern illuminant to penetrate and bring out the details in the projected image.

When the subject matter desired covers more space on the negative than will come within the limits of the mat opening, recourse must be had to printing a reduced image in the camera.

The accompanying sketch shows how one's own camera may be used for this purpose. A board about four feet long is fitted with ledges on each side, for the camera to slide between, and at one end is mounted (parallel with the front of camera) a frame containing an opening the size of negative. By tacking on grooved strips in which the negative can slide horizontally it is possible, by using the rising and falling lens front for vertical adjustment, to select and center any part of negative. While an ordinary plate camera is supposed to be available, it is possible to employ even a folding film camera, if fitted with plate attachment. If the bellows extension does not prove sufficient for focusing at such close range the use of a supplementary "wide-angle" or "copying" attachment over the regular lens will solve the problem.

Kits for holding lantern plates in larger sized holders are obtainable from most dealers, or an ingenious amateur can evolve some which will answer the purpose, while for occasional work the plates could be kept in position by attaching with a dab of mucilage at either end to a piece of cardboard large enough to fit the holder.

For use, the outfit is set up facing a well lighted window. If an unobstructed view of the sky is seen on the ground-glass of camera the illumination should be sufficiently uniform, but where such a prospect is not available the light may be evenly diffused by placing a sheet of fine ground-glass, or white muslin, stretched smoothly on a frame, a few inches from the negative. If there are other windows in the room, the shades should be drawn, or a dark cloth supported by sticks used to keep out superfluous light between lens and negative, for while a little diffused light will do no harm, much of it falling upon the face of negative would lessen the brilliancy of the slide.

Focus carefully, and stop down the lens until the image appears as sharp as that of the negative. It is best to use a pocket magnifier, rather than trust the unaided eye for this work.

As in contact printing, exposures vary widely, but the same method suggested for obtaining the time can be used. As a starting point, however, I would suggest that such transparency plates as the Carbutt or Eastman (not the Velox film) would under average conditions need about 20 to 30 seconds with lens stopped down to F. 22.

Careful finishing, such as clean cut mats and careful touching up of little defects which occasionally make their appearance, adds much the general effect of the finished result.

The final stage of the work after a slide is washed and thoroughly dry is to lay a mat upon it, over this place a well polished cover-glass, and bind the whole, as in passepartout work, finally attaching a small gummed "spot" at the lower left-hand corner of the face as a guide to correct position when passing through the lantern.

AN OLD TOPIC ONCE MORE

A Discussion of Tonal Qualities

BY SIDNEY ALLAN.

With Seventeen Illustrations

THERE is a tendency of late among some photographers to get away from the tonal craze or at least not to make it the sole end and aim of their work. They are in the minority and to be found in the ranks of the advanced pictorialists. The majority have arrived only at the starting point. And we will have to wade through numerous sloughs of dismal tonalities and be confronted with endless displays of mist, opaqueness and monotony before we will see once more the beauty of light and line. It will be like a new discovery.

I have frequently discussed the difference meaning the word "tone" had with the Old Masters in comparison with that of modern artists, and it is of no use to repeat it here. We understand something else by tone, tonality and tonal qualities, and so we will treat the subject to-day from the modern viewpoint.

By tone we mean evenness of tint. Artists speak of a Whistler etching like his "Pool," Fig. 10, as being good in tone. As you will notice the lines are very much of the same thickness and strength, there is no attempt at contrast and light and shade composition as in Rembrandt's etchings or Whistler's earlier work. It is not much more than an outline drawing and the impression is one of evenness. The photographers working in monochrome gradations, on the other hand, mean by tone generally a dark and in a few instances a light tint that pervade the entire area of the picture. The work of Kasebier, Steichen, Day, Coburn, Eugene, the Buffalo pictorialists, Hutchinson, and many of the professionals have carried this style to the very extreme. From this viewpoint a painting like the "Ascension" by Graeco, Fig. 4, in the Chicago Art Institute (bought for a fabulous sum) does not possess the charm of tonality. When they speak of Rembrandt they rarely mention tone. And it is the same with most of the Old Masters. Only when Velasquez's art furnishes the topic of conversation, they invariably remark that his paintings have a fine tonal quality.

What does this mean? In simple words what I have said before—evenness of effect and tint. None of the Old Masters sacrificed everything to this formula. Nor did Velasquez, but he succeeded in combining contrast, clear detail, emanated action and whatever else belongs to a good painting, with evenness of expression (viz., Fig. 3). Not that others neglected this entirely, only he made more of it, and largely by avoiding strong color contrasts. He had a preference for black and sober colors. Velasquez in a way is the ideal of all pictorialists, but they rarely come up to him. They narrow it down to a mannerism and subordinate all other pictorial possibilities to it.

Does this not hamper their freedom of expression? Is tone such a wonderful attribute that it condones the loss of all other pictorial elements? In a way, yes. It is pleasing to look at. Furthermore it concentrates the attention



*Fig. 1a—Portrait Study, by Rose Clark.
and Elizabeth Flint Wade.*
Fig. 1b—Prof. von Seitz, by Eugene.



Fig. 2—The Holy Family—Pinakothek.
*Fig. 3—Philip IV—National Gallery,
London.*



*Fig. 4—Ascension, by Grace.
Fig. 6—Sharaker Print.*



*Fig. 5—Portrait—Tosa school.
Fig. 7—Portrait of Mme. Jeanniet.*

and it is easier to lead the eye to the main point of interest. It excudes, however, elaborate figure composition. Well, the majority of our painters do not indulge any more in elaborate figure composition, and if they do, as, for instance, the mural painters, their frescoes (with the exception of Chevennes) are rarely in tone in the accepted sense of the word

Tone is really of great importance to modern art. It is not merely a whim of the hour. There are many reasons for it, notably our system of lighting and modern costume, a topic that I have discussed at length in my Whistler book. We find it difficult to compose in light and shade like Rembrandt, for instance, Fig. 2, and have replaced this deficiency by tonal qualities. There is no escape from it, we must master tone if we wish to satisfy the demands of modern art. And so it is better to investigate the mechanism of tone than to deplore the change of conditions.

Towards the middle of the last century there were a number of painters who indulged in a lot of clearly defined detail, but they painted it flat without much modeling. This method possessed a certain element of tone, simliar to the tone feeling in Japanese design. There is really very little difference between the portrait of the Tosa school, Fig. 5, and the portrait of Mademoiselle Jean-niet by Blanche, Fig. 7. They both show curious space arrangement, decided blacks and a certain flatness of representation. This is perhaps more clearly carried out in Fig. 6. You may smile, but this is a reproduction of one of the famous Sharaker prints that are bought eagerly by connoisseurs for five hundred dollars per. Portraiture in the art of Old Japan always resembled caricature, beside these two creations are actors in certain parts. What I want to point out is the clever use of black, and the handling of color (in the reproduction of tints of different value) like a pattern of mosaic. This peculiar treatment on a silver ground with the shimmer of mother-of-pearl produced a delightful sensation to the eye. They were in tone and vaguely resemble some of the early pre-Raphaelite work. It was at least the same principle of the juxtaposition of flat tints. But the tonalist was not satisfied with this. He still wanted greater simplicity. And then came Whistler.

He began very much in the same way. His "The Balcony" has many of the characteristics of a Japanese print. Only gradually did he eliminate color, and lost himself entirely in arrangements of gray and blacks, a dark tonality with just a touch of lighter color as relief, as the glove in "The Yellow Buskin," Fig. 16. Figs. 12, 13, 14 and 16 are genuine Whistlers. Tone is the principal idea in all of them. In "The Falling Rocket," Fig. 12, it is carried to the extreme. It is merely a vague suggestion of some resort where fireworks go off. A night scene may impress one in that way, and I must confess that I personally like impressionistic rendering. But it becomes intolerable when applied to daylight pictures and portraiture. And that is just what some photographers do. Every subject has its limitations and its possibilities. We must remain within the limitations and explore the possibilities. Fig. 9 possesses a decided tonal quality and yet everything is plainly seen. A



Fig. 9—Still Life, by an Old Master.
Fig. 12—The Falling Rocket, by Whistler.



Fig. 11—The Balcony, by Whistler.
Fig. 16—Lady Campbell (The Yellow Buskin), The Wiltach Gallery.





Fig. 8—Un Petit, Robert Henri.



Fig. 13—Sir Henry Irving as Philip II (Metropolitan Museum), Whistler.



Fig. 14—Thomas Carlyle, Whistler.



Fig. 15—A Whistler Study, by C. L. Peck.



Fig. 10—THE POOL

By Whistler

still life necessarily must show detail, but a night scene is a different matter. A picture that is more like a Velasquez than any other Whistler has painted is his "Henry Irving as Philip II," Fig. 13. The French painter Marret had done this sort of thing, and Whistler went him one better. It was the problem of a costumed figure in space. There is more tone in the original, in the color scheme, than in the reproduction, but even here we see that it contains no obtrusive note. The picture is valued at something like thirty-five thousand dollars (a foolish prize!) ; no wonder that it gains in popularity.

The portrait of a little French schoolboy (Fig. 8) by Robert Henri also represents an attempt at tonal composition. It is less successful. Although showing really less differentiation and variety than the elaborate costume of Philip II, the face and hand are out of key.

Fig. 14 shows us the masterful portrait of Thomas Carlyle. Here we have a silhouette, a background, considerable contrast, detail in the face and flatness of treatment, but tone within the limits of gray and black is after all the most attractive feature. This is tone composition at its best. It is not as easy as it seems. How difficult it really is, no doubt Chas. L. Peck of Buffalo has realized, who attempted to utilize the scheme of composition of the famous "The Artist's Mother," at the Luxembourg, with a younger woman and in an upright form. Fig. 15 reveals considerable skill. The figure is most conscientiously posed, and every phase of the Whistler composition has been adapted to the special purpose. But it lacks tone. The atmospheric quality is entirely missing. It is merely a space arrangement, even the silhouette is not carried out as well as in the artist's masterpiece.

Even more perfect in tone, although carried to an extreme, than either the Thomas Carlye or the Mother is "The Yellow Buskin," Fig. 16, at the Memorial Buiding in Fairmount Park, Philadelphia. This picture and the Sarrassate at Pittsburgh have not the stone of tonality rolling, and contrary to tradition it has gathered moss. The demand for tone has become almost pedantic. Nothing is recognized unless it is even in tone, which in many instances is synonymous with blackness. Whistler never neglected form, he subdued but it is all there. Notice how clearly the feet, gloved hand and the face are delineated. Only the outline of the body has been softened, but by nothing else than a very delicate juxtaposition of values. In the fur cape the contour is even accentuated by vague highlights that plainly suggest the form. Nothing is drowned by meaningless blurs. Even the background and floor are vibrant in the painting.

If the pictorialists would handle tone in this masterly fashion, no fault could be found with it. True enough, it is weakness rather than strength to specialize on one phase of composition. But if one has made up one's mind to specialize, one should at least do it in a manner that is sane and logical and that makes the most of its possibilities.

Tone may be easier to realize in color than in monochrome. Certain colors, although producing entirely different optical sensations, are almost equal in value. The painter has a greater range to make the various parts of his picture balance. Yet there is no reason why it could not be done in black and white. To accomplish this the photographer must get a broader conception of tone, he must not be afraid of contrast, of detail of line and passages of light.

Tone will always be one of the principal factors of composition, but even it should remain the most prominent one, this should be no excuse to subordinate every other element of pictorial expression to such a degree that it loses all its individuality and claim to beauty.



LOW TIDE IN THE ESTUARY

A. M. Clay

THE CHOICE OF A PAPER

BY C. H. CLAUDY.

With Seven Illustrations.

THE beginner takes the paper recommended by his best friend, of the stock house, and struggles through with the process of printing, toning, fixing, or developing and fixing, as the case may be, and is more than satisfied if from his labors he gets *any* kind of a print.

But the beginner who has overcome the first thrills of rapture at sight of a photograph he has really made all by himself, soon begins to demand new worlds to conquer. He hears or reads of many different kinds of papers and begins to ask why there are so many, and what are the particular advantages of each over each. Nor does it take him long to arrive at that critical stage when he will aver with knit brows and judicious air, "I don't think that surface and tone exactly suits that negative—something a little rougher and a wee bit warmer in tonality will bring out the roundness of that modelling much better, I think!"

However, the road to paper knowledge is somewhat beset by a multiplicity of sign posts. There are so many varieties of papers and so many kinds in each variety! yet, if they are classified, order soon comes out of the wilderness.

First among all the papers in point, at least of age, is the print out paper—that which gives a complete image on exposure to light beneath a negative. Such papers are sometimes known as silver papers and were at one time called



GREAT FALLS, POTOMAC RIVER (Virginia and Maryland)
Velox print, six years old, not completely fixed, shows discoloration.



Maximum toned Velox, eight years old. Shows bronzing in the shadows.

albumen papers, until Albuma was used as the trade name for a single make, when the inclusive name became confusing. Solio is probably the best known of this variety of papers, almost all of which print with a long scale of tones, hold details well in the shadows and finish with a highly glossy surface, particularly if used in a burnisher or by being dried face down to ferrotype plates.

Most popular of all the papers are the developing out papers or printing in papers, to use the older name. Unlike the printing out papers or P.O.P. as they are commonly called, the D.O.P. papers show no image after exposure to light, any more than does a plate or film after exposure in the camera. Like the plate and film, D.O.P. papers require to be developed, and after developing, must be fixed in the familiar hypo bath or some modification of it as it is commonly known. Velox and Cyko are the two examples of this class of paper which come readiest to mind.

Such papers are ultra-rapid compared to P.O.P. papers, but slow compared to their express-speed relatives, the bromide papers. As far as manipulation goes, the familiar D.O.P. or "gaslight" papers, as they are often called, are much on a par with the bromide papers, since both have an invisible or latent image which must be subjected to the action of a developer to make the picture visible. Bromide papers, however, are very fast and must be handled in a yellow light, whereas the D.O.P. papers can be handled in ordinary diffused artificial light without injury.

D.O.P. papers come in many surfaces and in two or more grades, the grade referring to the character and not the quality of print produced. These grades go by various names, but all can be translated into "hard" or "medium"



PAY DIRT AT A COLORADO DESERT MINE

Print ten years old. Result of poor and weak toning bath on Solio.

or "soft," meaning that the paper will yield a contrasty, a medium or a softly graded print. Bromide is also made in more than one grade but the "hard" bromide is very soft when used for making contact prints.



STATION AT FOOT OF HOIST, Santa Ana Tin Mine, Cal.

Print ten years old. Improperly fixed Solio.



*Print ten years old. Improperly washed.
Shows hypo staining.*

Among the most beautiful of all the papers is platinum, which can properly be called a "semi-print-out" paper since the image is visible after printing, although in a veiled and only partly visible form. The characteristic of platinum is shared by many other papers of which Aristo, and the familiar blue print, as well as some of the kallitype papers are examples.

Platinum is more expensive than either the print-out or print-in papers, but has a quite indescribable beauty all its own. It is a comparatively simple paper to work, requires sunlight or intense artificial light and great care to keep it perfectly dry. It is full of a pleasing atmospheric quality which is not always to be obtained on other papers.

Carbon is a somewhat difficult process, but one which yields beautiful results. It does not show an image on printing, and the time of printing is usually obtained by printing at the same time on solio or by the use of a special meter. Carbon is the easiest of all papers to use when prints of many colors are desired, since all colors can be obtained by its use. Platinum runs the gamut from sepia to gold black, and D.O.P. papers can be obtained in green, to print black or to be toned brown and by special treatments other colors can be obtained, in less satisfactory manner, however.

Remain the home made papers, of which gum, "plain" and some of the kallitypes are examples. These can be dismissed here with the mention of their names. Gum is a paper which requires both technical and artistic skill and is not for the beginner and "plain" and kallitype papers are matters for the experienced, and not for him who can as yet hardly make a good print on paper others make for him, let alone manufacture his own.

The matter of permanence is almost entirely one of purity of chemicals and honesty of work. Solio, for instance, is often referred to as an impermanent paper. What is really meant is that solio as it is usually worked is not permanent. Neither is it, when it is toned and fixed in a combined bath, hastily washed and stripped in a hurry to get in the mails to some impatient engraver! Combined toning baths are usually made with salts of lead and a chemical damage is done with these which not even prolonged washing can always remove. Tone and fix solio in independent baths, adhere strictly to the directions, use fresh chemicals and wash well, and it will show as truly permanent as any paper. I have a print so made from albumen paper, which came from its wash water twenty years ago, and it looks like a print of yesterday.



THE HOIST

Print ten years old. A single-toned Solio print. Time has faded all the edges and high lights.

Complaints are often made, too, of the impermanence of the D.O.P. papers. And it is perfectly true that one can find hundreds of albums of D.O.P. prints half of which have turned an ugly brown. But the fault is not with the paper. You cannot expect anything photographic to stay fresh and properly colored, which has within it either the chemical products of uncompleted fixation, or the remains of the hypo which is supposed to do the fixing.

A weak hypo bath, means that in the time usually required to completely fix a D.O.P. print, only the unaffected silver has been removed. The double salts, product of fixation, remain. It requires time and hypo to remove these. If the print is taken out and washed before the fixation is complete, some day it will fade. If fixation is complete and washing be too hurriedly done, the hypo will one day result in a stained print. Because so many commercial finishers have slighted their work and turned it out at the least possible chemical expense, with cheap help and in the minimum of time, there are now thousands of prints in albums spoiling or spoiled. But surely that is no more to be blamed upon the paper than one blames fog upon the plate upon which it appears when there is a leak in the camera!

No photographic printing medium is more permanent than the paper stock of which it is made. With this fact in mind the manufacturers of photographic papers—papers which must stand manipulation, coating, wetting and drying, as well as the action of many chemicals—search the world's markets and harry the world's paper factories for stock which is pure, without chemicals incorpo-

THE PHOTOGRAPHIC TIMES



A 100 STAMP MILL

Solio print ten years old, made by separate toning baths. This print is in perfect condition.

rated in it, and which will not absorb damaging substances either from the air or from whatever they may come in contact with. Consequently, no modern photographic paper fades from a cause to be traced to the paper stock. But the papers one coats at home, such as gum and kallotype and "plain" papers, are not necessarily upon as good stock, consequently, such prints may be less permanent than the ready-sized papers, but are not necessarily so.

It can safely be taken for granted that almost all the commercial papers either print-out or developing-out or semi-print-out, are as absolutely permanent as the silver and platinum with which they are made, providing manipulation has been according to directions and washing thorough, and also that they have not been subjected to unsanctioned treatment. For instance, there is a fascinating process known as uranium toning, and again, uranium and iron toning, for papers of the velox and bromide classes. The process produces beautiful prints, which are sometimes reasonably permanent, and again are not. When the prints so made are *not* permanent but "bronze" in the shadows or show the familiar blue or brown spots which spell "iron" to the initiated, it is hardly fair to blame the paper which was not made for any such chemical high jinks!

Dismissing, then, the matter of permanence and impermanence as a reason for the choice of any paper, we have as a reason for choice surface, color, and quality. As similar surfaces can be obtained on many different brands of paper, we really depend for choice upon color and quality. And as carbon, D.O.P and platinum all yield a variety of tones, of browns, blacks and even reds and

sometimes greens, it really resolves itself into a question of quality of print. By quality is not meant its relative goodness or poorness, but that indefinable something which makes a rough print different from a smooth, a platinum different from a carbon.

So it finally comes down to a question of taste. Broadly speaking, rough papers should be reserved for large work, for landscape and foliage and matters of large mass. Smooth papers are for small prints, for pictures with much fine detail. Glossy prints are for commercial and illustrative subjects. Browns and sepias are preferable to blacks and greys when a certain warmth of tone is indicated—autumn scenes are better brown than black—winter scenes are better black and white than brown, etc. There is a certain crystal like hardness and clearness about carbon that unfits it for the misty, hazy print, and the quality of atmosphere about platinum seems to show it as less fit for clear, clean-cut scenes than for those artistic out-o'-doors pictures in which some hint of the season and the kind of day is wanted. Blue print is a lovely paper for marines, so is the new carbon green velox, but neither is good for portrait work except from the standpoint of the extremist.

In few words and short then, fit the surface of the paper to the subject and the size—fit the color or tone to the feeling of the picture, and go confidently ahead as far as the choice is concerned uncaring about permanency, assured that, if you are faithful and honest in your work, use good chemicals, plenty of them, and according to directions, your print when done will outlive its maker nor show any changes from the passing years.

PICTORIAL LANDSCAPE PHOTOGRAPHY

BY HARRY A. BRODINE

AFTER we've graduated from the strictly snapshot stage of our photographic career we begin to become more observant of what a successful picture is and the essentials going into its makeup. I remember distinctly my first landscapes which I used to consider pretty good, but in the light of latterday understanding pale into insignificance before what I now consider a good example of pictorial landscape photography. It's all in the point of view one takes of what is good and what is not, and nothing teaches like experience; so if you are a new hand at photography with no art training you can gamble that the pictures you now think are, "the finest ever," will not be nearly so pleasing in a few years hence.

The main thing necessary in good landscape photography is the making of the right start; and, because your friends praise your productions, it is no sure thing that they will be prize winners.

After you have become fairly proficient in working your camera, which should be used with a tripod, let it rest awhile and study the pictures being

reproduced in the magazines especially those which have been prize winners or been exhibited at the exhibitions. If you study painstakingly you will soon find out the difference between your work and the other fellow's, and then be able to start afieid once more with a better understanding of what goes to make up a good composition.

Now, as you've doubtless read before the simpler a picture is the more pleasing sensation you will experience on viewing it and gradually the beauty of it will grow upon you. The fault with camera studies of landscape is that everything is so minutely portrayed that when a landscape with abundant foliage is attempted there is but a conglomeration of meaningless detail which is very trying on the eyes. A painter never paints each individual leaf even though he does use canvas many times larger than we use plates; so it will be at once apparent that the less included in a view the better it will be from a photographic standpoint.

Of course it takes a great deal of time to find out all these things and put them into actual practice; but, like everyone who has become something in pictorial photography, it is only a case of keep on plugging along. Every picture I make doesn't please me by any manner of means, neither does every painting a painter makes just as good as his best; but each mistake is an object lesson and with the actual experience so gained one finally arrives at the stage when uniformly good results are the rule.

In winter it is easier to secure simple compositions as then the trees are denuded and the pitfall so many amateurs stumble in is removed. There are not as many tones to render, but those which exist are a trifle harder to record especially sunlight on snow effects.

Many a time I have been enchanted with some particular view which was really dazzling on the ground glass, but when the plate was printed from, "Lo! The magic of the view had disappeared." Why? Because it was not the composition which attracted me but the mass of beautiful color which, when reproduced in the monochrome, presented an altogether different appearance.

When afieid making landscapes it should be one of the photographer's first aims to try to reconstruct the view in black and white. This of course must be done in the imagination of course and while it may take a pretty lively mind to do as I suggest yet it will be a fine method of circumventing the impulse to snapshot every thing in sight just because it has a lot of fine color in it. When you've gotten so far as to be able to resist the desire to expose every time you set your camera up, then you may safely assure yourself that you are beginning to arrive at the stage with your prints will bear favorable criticism from a competent judge.

LONG DISTANCE PHOTOGRAPHY IN WAR AND PEACE

BY FRANK C. PERKINS.

With Eleven Illustrations.

IN photographing the heavenly bodies: the rings of Saturn, the stars and the surface of the moon are clearly shown in negative produced by the air of the telescope and a comparison of these photographs with those obtained of the same subjects by an ordinary camera would be ridiculous.

In the same way it will be clearly seen that special apparatus is absolutely necessary to produce satisfactory photographs from an aeroplane, a dirigible balloon, or a carrier pigeon in time of war or in time of peace. The value of a photograph in many instances during the present war in Europe is greatly enhanced by being able to produce at great distances, detail pictures of forts and siege guns, armies in their trenches and naval vessels lying at anchor or in action, as taken from airships and scouting aeroplanes.

Previous to this war several interesting forms of long distance cameras were developed for taking such photographs of objects far away from the apparatus, with great detail and clearness even at great distances, and these instruments are undoubtedly being utilized in Europe to great advantage by the



Fig. 10—The French Taxiphote for reproducing the views of the Verascope in all the depths and detail as though looking at the natural scene through a pair of powerful field glasses.



Fig. 11—Combination of Taxiphote and Electric Projection Apparatus.



Fig. 4—A photograph of Propylaea at Munich, taken with an ordinary camera.



Fig. 5—Detail of Propylaea at Munich, taken with French Telephoto.



Fig. 6—The Chateau de Grandson in Switzerland, photographed with an ordinary camera.



Fig. 7—The Chateau de Grandson in Switzerland, taken with the 10 M Telephoto.



Fig. 1—VIEW OF BERNE, with an ordinary camera.

military authorities of France, England, Germany and Russia in this great conflict, giving the officers added facilities to the wireless telephones and telegraph in directing the fighting.

A number of different types of French apparatus have been devised for taking long distance photographs and bringing out the detail to a marked degree. The accompanying illustration, Fig. 1, shows a view of the city of Berne,



Fig. 2—VIEW OF BERNE, taken with a Telephoto.



Fig. 3—French Telephoto.

Switzerland, taken from a dirigible balloon with an ordinary camera while Fig. 2 shows the remarkable detail of the same view taken with a French Telephoto 13 x 18 of the type noted in Fig. 3, designed and constructed at Neuchatel by E. Chiffelle. The photograph, Fig. 4, is a view of the propylies at München, Germany, taken with the ordinary apparatus, and in Fig. 5 may be seen the remarkable detail obtained of the same subject at the same distance with the French Telephoto.

The accompanying illustrations, Figs. 6 and 7, show to good advantage the remarkable difference between the ordinary camera and the 10 m telephoto in photographing the Chateau de Grandson in Switzerland. The verascope seen in the accompanying illustration, Fig. 8, is another French photographing instrument of great value in photographing objects at a distance, as devised by Jules Richard of Paris, while illustration, Fig. 9, shows the automatic inverseur of the Chavelon-Richard type as utilized with gas or electric lamps for showing up diapositives of the Verascope negatives.

The taxiphoto noted in the illustration, Fig. 10, is a French automatic apparatus for taking verascope pictures 47x107 mm and reproducing the views of the observer in all the depth and detail possible in looking at the natural scene through a powerful pair of field glasses and such reproductions are of great value for study and planning attack.



Fig. 8—The Verascope, as designed by Jules Richard of Paris.



Fig. 9—The Automatic Inverseur of Chavelon, Jules Richard.

It is possible to reproduce in army headquarters the views of the verascope 45 x 107 mm on a screen greatly enlarged by means of a French combination shown in Fig. 11 of a taxiphote and an electric projection apparatus, the latter being equipped with a 90° arc lamp taking 6 to 12 amperes and a condenser of 103 mm diameter.

A modification of the verascope has recently been developed which produces the pictures in their natural colors, having all the depth as seen by the stereoscope with the added beauty of the colors of nature and such an apparatus will undoubtedly be developed for motion picture machines in the near future.

WASHING

BY PAUL W. EDDINGFIELD,

WASHING is a process of elimination or removal. The foreign substance that is removed may be dirt, chemicals, or metals of various kinds. The solutions used for washing may be acids, water, or other solutions. The foreign substance may, or may not, be dissolved in the washing solution; in photography it is always dissolved.

In this article I wish to deal only with washing photographic films, plates and paper free from sodium hyposulphite (hypo), although the same methods may be used for the elimination of most of the other chemicals used in photography.

We get instructions for the elimination of hypo almost daily. The instructions are usually the same, but the way the results are stated is different. The following will illustrate my last statement: One hour's washing will remove absolutely every trace of hypo; one hour's washing will be sufficient. I believe that the latter is the term that should be used, while the former is, no doubt, far from being correct; in fact, the word "absolute" is too often used by writers on all subjects.

But before the hypo can be removed from the film, it must have been thoroughly fixed in a fresh fixing bath. If the fixing bath has had a chance to act on all parts of the film during fixation, ten or fifteen minutes will be sufficient, although I fix my plates and films thirty minutes in a fresh acid chrome alum fixing bath.

Washing by the tray method is a process of dilution, *i. e.*, diluting the fixing bath with pure water. If you use a washing machine that changes the water completely in from three to five minutes, the result will be the same as when the tray method is used; the only difference being in the method of changing the water. In the tray method the water is changed very quickly, while in the washing machine the water is changed gradually.

Twenty prints on lightweight paper, size four by five inches, will absorb

about one ounce of water. Of course this amount will vary according to the brand of paper used, its weight and etc.; but in order to be on the safe side we will say that five prints of the above size will absorb one ounce of water. When these prints are removed from the fixing bath they will contain one ounce of the fixing bath. We place them in a tray that contains nine ounces of water, and, by the way, this is the smallest amount of water that should be used for this number of four by five prints. The prints should be allowed to soak from three to five minutes, because it takes the water that long to thoroughly saturate them. Be sure to keep them separated in order to allow the water to reach the surface of every print. Your original one ounce has now been diluted to ten ounces, or in other words, there is only one-tenth the amount of hypo in your prints that there was at first.

Empty your tray and fill it with nine ounces of pure water. Place the prints in this and allow them to soak the same length of time as before. Your prints now contain only one-tenth as much hypo as they did when they were removed from the first wash water, and only one-hundredth as much hypo as when they were removed from the fixing bath.

Repeat this operation through ten changes of water. Your prints now contain only one ten-billionths as much hypo as they did at first, and you have only used ninety ounces of water, a little over two-thirds of a gallon. However, if you only want to give your prints one change of water, use 78,125,000 gallons of water and you will get about the same results. I know that this does not sound very reasonable, but you can figure it up for yourself and be sure not to forget the old saying that "figures never lie." This proves that it is not so much the amount of water you use, as it is the way in which you use it.

So you can readily see that the tray method outlined above is very efficient, but it is not as a general thing practical for the professional photographer because it requires too much attention; so he resorts to the washing machine. There are quite a number of these on the market, and most of them will do good work if properly used.

Whichever method of washing you are following, use the permanganate hypo test to test its efficiency. If it does not wash your pictures thoroughly in one hour, discard it; for prolonged washing, especially if the water is warm, may cause decomposition of the gelatin.

MAKING AMATEUR PHOTOGRAPHY SELF-SUPPORTING FINANCIALLY

How and Where to Sell a Few Attractive Views for Sufficient Cash
to Secure the Materials, Even the Lenses or Cameras With Which
to Take the Pictures, for Personal Enjoyment.

BY C. L. CHAMBERLIN.

CHEAP as supplies for amateur photography have become there are still many picture makers who would enjoy "better photos" and more of them were it not for the constant outlay, small as it is. Many would welcome the opportunity to dispose of views at rates more remunerative than the usual making of view post-cards in competition with the cheap process views.

There is a market and a good one for exclusive rights to good photos for use in books, magazines, advertising matter as originals for post-cards, calendars and other purposes of like nature. It is true that most amateurs do not possess a camera of sufficient size and power nor do they acquire the requisite skill to do highly artistic work in competition with professionals. But there are hundreds of papers and magazines that ask only an interesting scene, brought out in hard, brilliant, clear-cut relief, and there is no valid reason why a large number of amateurs should not meet these requirements.

Probably the greatest present day demand is for scenes in the current news, next for striking or peculiar scenes of various kinds. To illustrate, new and striking views of Niagara Falls might find a market but their value would be trebled if they included a glimpse of the Mexican Mediators at work or taking a moment's intermission in their rooms near the falls.

Flood and wreck disasters, new inventions of note, an aeroplane race, prominent men now before the public, especially if shown at work or in moments of relaxation, scenes of recent occurrence and the like are all scenes of interest to news readers, hence valuable and salable to publishers. Birth-places of famous places, especially if they are for the time prominent, and any views of places where events are happening, are very salable. An 8 by 10 photo of the "Titanic" might have gone begging the day she left the English dock and a week later post-cards of her would have sold by the million at ten cents each. Mexican views have had a ready sale because publishers were looking for things to happen that would bring Mexican scenes before the public eye. A photographer who is in any place where big things are possible or probable can be certain of a neat sum from views of surrounding scenes, either to copy-right and sell singly to publishers or to sell the negatives exclusively to one at a gilt-edged price.

But coming down to the every-day scenes we find that such views sell to most interested publishers at fifty cents to three dollars each, with an average of one dollar for clear views, post-card or 4 by 5 in size. Publishers usually prefer a 5 by 7 view, but smaller ones will do if clear and prominent in detail.

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Referring to his sales' record the writer finds several post-card or 4 by 5 views which sold at one dollar each. A few are here described:

- 1—A cheap summer cottage. (A health magazine.)
- 2—A live owl sitting on a man's arm. (A Sunday school paper.)
- 3—Ox-cart and auto side by side as now used in same town. (An auto magazine.)
- 4—A logging scene in north woods, snow over evergreens, logs, etc. (In popular scientific magazine.)
- 5—A dog that carries his master's mail from rural carrier to house. (To Sunday daily.)
- 6—"Five Family Pets," showing two children feeding three cats. (Sunday school paper.)
- 7—"A Glimpse of the Hog Industry," showing lady on knees with three very small pigs climbing into her lap. (Home paper.)

With most views there should be fifty to one hundred words of description of the scenes displayed and any associating circumstances of interest. If merely a fancy picture like Numbers 6 and 7 above, no description is needed. The five first mentioned in the foregoing list were accompanied by 40 to 125 words each. News scenes need only the complete name of the scene and the name of the person or event which cast the scene into prominence. Any one can write out these brief descriptions and attach the sheet to the photo by means of a detachable paper clip. See that the full name and address of sender is found on every view and every sheet of description sent out, as they often get separated in a publisher's office.

SPECIAL SUGGESTIONS. SELECTING SCENES FOR SALABLE VIEWS.

Avoid all "posed" views. Let your subjects, human or animal, be engaged in their customary vocations.

Scenes showing children at play, animals playing or engaged in some interesting pursuit, as a cat catching a mouse, a dog making a point at game birds, or anything similar, are desirable. Camping scenes, hunting, fishing and the like are often purchased, but by all means avoid the strings of fish or dead game which indicate the butcher more than the true sportsman.

Views of natural beauty taken for their general artistic effect are not so attractive to publishers as such scenes used as a background showing some human being, animal or material object as a center of attraction. Merely beautiful views were formerly used much for calendars and post-cards but manufacturers of these objects now insist that there be some "human interest" in every picture. That is, they demand that there be a scene showing humanity, animals, wild or domestic, exhibited in a characteristic attitude, with the scene as a true environment. Thus in a lake scene, rather than bare water surrounded by a few trees, there should be a boat, a party on shore, deer coming down to drink, a camp in the edge of the timber, or some combination of these.

Views of machines, carriages, autos, motorcycles, farm engines, road

graders, etc., in use, are salable in two ways. Manufacturers of the articles displayed may buy the views to use in their advertising or to decorate the home office. This is the more likely when the machines are shown in unusually favorable operation. Publishers of periodicals devoted to such industries may buy the views if they show any new or desirable method of use. Pure bred animals make good subjects for views which may be sold to publishers of papers interested in these animals. Views of peculiar happenings, old buildings or unusual things of any kind sell well to the daily papers for use in the Sunday specials. In fact very few clear-cut, brilliant views of persons or objects not especially posed will prove unsalable. Finding a market is a question of ingenuity in finding rather than of real existence.

PREPARING THE VIEWS FOR SALE.

Photographs are sold in several ways. Valuable news photos will doubtless bring the most by selling the negative and exclusive rights to a news bureau or professional photograph dealer. Scenes of ordinary interest such as floods, wrecks, views of Mexican cities where fighting has occurred, and the like, may often be copyrighted by the photographer and copies sold with permission for newspaper use in one issue to a large number of big dailies. This is especially possible when similar views are not easily obtained. When a view attains unusual interest, one publisher may prefer to buy the negative and thus hold a "scoop" over competitors. Ordinary views at a dollar usually call for exclusive rights. For this reason take views from different points of view of every interesting scene and you may then sell the different views to different publishers. But if you sell a view to a publisher without mention it would carry exclusive ownership and you would not dare to sell other copies from the same negative.

Unless views are of special importance only a complete copy from the negative is demanded by a publisher. From this he will make a plate for use as well as though having the negative. In case of valuable views which may be copied and sold out singly, the buyer demands the negative so as to prevent others from ever making any copies. For ordinary purposes a print on any good paper is sufficient. If they are kept for the owner's use they are best mounted, but when taken to send through the mails to publishers it is better to leave them unmounted. The double weight papers may be used so as to afford more substantial body to the view and prevent tearing or roughing up at the edges.

For mailing there are special envelopes manufactured which are very useful to prevent breaking in the mails and yet leave the package as light as possible. Mailing boards are thick and porous, give excellent protection and avoid useless postage outlay. Turn the views face in, wrap in one thickness of light, firm paper, fasten a sheet of mailing pasteboard on one side by a thread or light twine, and insert in a strong envelope. They go for two cents an ounce if sealed or containing writing or one cent for two ounces if not sealed and with no writing inside. Registering is ten cents extra either way, if one desires it.

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WHAT BUYERS OF PHOTOGRAPHS DEMAND.

The following statements are culled from recent "want lists" of publishers who wish to buy photographs. From these requirements the reader will be able to decide whether he will be likely to supply the views desired.

1—Wants news photographs of all description for use alone and with features.

2—Wants photos pertaining to power transmission and to mill, mine, factory and railroad development in the United States.

3—We are in the market at all times for photographs of prominent golfers, scenes on golf links and pictures of golf club houses.

4—Want photos pertaining to anything in electricity and along the line of scientific interest and general advance.

5—A Sunday paper desires a page of photos of children. Pays \$1 each for those used, preferably *good* post-card photos, not process prints.

6—An educational publication desires photos on school administration, superintendence, school architecture, sanitation and related topics.

7—Sunday paper desires news photos of any event of more than local importance occurring in any part of the world, especially in the eastern part of the United States. There is no demand for scenes or posed pictures. Photos must be accompanied by specific data of the event and of individuals and scenes shown. They must be clear contact prints, unmounted. Do not send negatives or films. Mail by special delivery as soon as possible after the picture is taken. News value depreciates with every hour after the event. Fully prepay postage on all letters and packages and enclose return stamps if you wish unaccepted views returned.

8—An electrical magazine "offers a field for unique photos that possess human interest, need not necessarily be electrical in nature. The established rate is \$2 each on acceptance."

9—A farm paper pays \$1.50 each for accepted farm views. Another one pays \$1 each; a third, 50 cents each, and several pay by the column for articles and desire them to be illustrated, paying space rates for the pictures.

10—An illustrated weekly pays \$1 to \$3 each for views "covering the whole field of human endeavor and interest," including "the big things men and women do in the trades, arts, sciences, as well as historic buildings, relics, monuments, heirlooms, remarkable scenes, devices, freaks of nature and the odd, strange and curious everywhere." Surely this is a field broad enough for any one to land in.

A nature editor pays fifty cents each and upward for each accepted photo of wild birds, animals, hunting and fishing scenes and sports in general. Prints on glossy paper are preferred. Photos returned if postage is enclosed. A farm paper pays \$5 to \$15 for large views, preferably farm or country life scenes for cover use. Another farm paper pays \$1 for post-card views of anything in the world that might interest intelligent country people. This list could be extended indefinitely.



ALBUMENIZED paper which was so generally used years ago by all photographers before the advent of the developing paper of the present day seems to have taken a new hold upon some of the professional and commercial photographers. For the reproduction of photographs in half-tone for printers, the albumen print has always been the most satisfactory from the photo-engraving and printing standpoint. For softness of definition and detail of the albumen print has never been excelled, and it may be for this reason alone that some of the commercial photographers prefer it to the glossy developing paper.



THERE is a common notion abroad that flashlight work is only useful for taking photographs of dinner parties or such like gatherings, and that at best it is but a sorry substitute for daylight. It must be admitted that not a few of the photographs taken on these occasions are far from satisfactory. But a little closer acquaintance with the matter soon leads one to realize that if this method is not entirely satisfactory for taking large groups, yet it can be employed with entire satisfaction for quite a large number of other classes of work; so that those who say they cannot take up photography because other matters claim all their time during the daylight hours need not refrain from practising the art on that account. Attention of those of limited experience in these matters is called to a use of the rapid flash powder or the more slowly burnt magnesium ribbon as an aid to the dim lighting of many architectural interiors. On occasions we have been more than glad to use magnesium in the photography of scientific and other apparatus needed for the illustration of a technical article when it was not convenient to wait for daylight—a doubtful contingency of the morrow.



WE regret to see the use of the term microphotograph for what is now by common consent preferably called a photomicrograph. As these two terms are not infrequently confused, it may be as well to remind all and sundry that a microphotograph is a small picture of a large subject. Visitors to the Crystal Palace (London, Eng.) twenty or thirty years ago will probably remember being invited to invest a few pence in the purchase of a penholder, in the tip of which was inserted a tiny photograph only seen on holding it close to

the eye. Similar microphotographs are still occasionally to be met with among second-hand collections of objects prepared for viewing in the microscope, but we do not think that they are now being made commercially, so that they are likely to become curiosities. On the other hand, when an object is shown on a very much magnified scale, it is usual to call it a photomicrograph. Frequently, as a matter of convenience, it is customary to use a microscope in this connection, but this is not a necessity.



WHEN an object presents a shiny surface to the camera, it often also presents difficulties in the way of reflections of the observer or his apparatus. Doubtless the reader has been sadly bothered by unpleasant reflection effects when visiting a picture gallery. This trouble is naturally more apparent when the pictures are covered by glass. The theory of the matter is simple enough, although it is not always quite so easy to bring it into the region of practical politics. By common custom based on experience the dressing-glass or toilet-mirror is usually (and rightly) placed with its back to the window, so that its reflecting surface may be in comparative darkness, while the user may be in the full light of the window. But now and again one meets with people who tell us that the more direct light that falls on the mirror the better the reflection. A moment's experimenting will show the fallacy of this notion. Having thus seen how to get the maximum reflection effect, it is easy to see our way to reducing this to a minimum. There are two things to be regarded. First, all objects in front of the reflecting surface should be as dark as may be, *i. e.*, receive as little incident light as possible. Hence those who copy pictures in galleries rightly cover up their cameras with a black velvet cloth, in which there is a peep-hole for the lens; everything around or behind the camera being kept as dark as possible. The second condition is that the light falling on the reflecting surface of the picture shall be incident at such an oblique angle that it is not reflected into the lens. The same principles, of course, apply to the efficient lighting of a picture gallery, though, strange as it may seem, they are systematically ignored in most cases.



MANY amateurs are at a loss and fail to understand why it is that Tom, or Dick or Harry always has such luck with his pictures. His camera is certainly not any better, if as good, as his own. He attributes it to, as mentioned before—Luck—whereas if he would get down to a close analysis he would readily understand that it was the attention given to the smallest of details that was the means of producing such satisfactory results.





Discoveries

[The readers of THE PHOTOGRAPHIC TIMES are invited to contribute to this Department reports of their Discoveries for which we will allow One Year's Subscription, on publication of the contribution.—THE EDITORS.]

A HOME-MADE POST-CARD PRINTER FOR DAY-LIGHT.

A short time ago I noticed an article for an electric light post-card printer. As we here in the back country do not have electric light, I was of the opinion that I could adopt the idea for use with daylight. After a little planning I made one, photo of which I enclose, which works like a charm.



It has proved very valuable, especially as I have quite a lot of printing to do at times. Half of the printer is made to fit the window casing, 8 inches deep, while the other half is flush with the wall and is covered with an orange fabric. One thickness of butter muslin covers the back. The shutter is $\frac{1}{4}$ " board with an opening 5×7 inches. The main opening is $3\frac{1}{2} \times 5\frac{1}{2}$, increasing outward, and is grooved to take a masked 4 inch glass. The holder has rubber bands, but springs would be an improvement. A button on casing holds printer firmly. As my window faces the south I

use two extra thicknesses of muslin on the outside of the window and can work in bright sunlight. CHAS. W. BROWN,

Atlin, Canada.

☆☆☆

HANDY ADJUSTABLE MASKS.

One trouble which the amateur usually finds in his printing is that of just finding a correct size of mask to suit his negative, and here some may say, "Why use the kind you stick on," but I have and never again. What I believe to be the solution to this trouble I will endeavor to explain and will take my own particular case as an example. I use a $5" \times 7"$ outfit and have occasion to wish for various sizes of masks. In my dark-room I have hanging strips of good tough paper ranging from $\frac{3}{8}"$ to $1\frac{1}{4}"$ in width and have the same in pairs as, for example, $2-\frac{3}{8}" \times 5"$ and $2-\frac{3}{8}" \times 7"$ and so on. With these strips I can make any size mask from $2\frac{1}{2}" \times 4\frac{1}{2}"$ to $5" \times 7"$ at a moment's notice. This applies to any size of frame. "Try it and see."

JAMES MOORE.

☆☆☆

If you have a musician in the family borrow his metronome the next time you are making prints or enlargements.

The metronome runs a long time with one winding and when set at *sixty* will tick exactly on the second. One needs only to *hear* and not *see* it, thus accurate count of the flight of time can be kept in the dark-room or when the eyes are otherwise occupied. FAY GUTHRIE.



The following pointers on Pictorial Photography were embodied in the Monthly Bulletin of a well-known Camera Club:

"A large percentage of pictures made by amateur photographers show a very general absence of knowledge of even the most elementary rules of art.

"There are many, who, from seeing a great many photographs and paintings, have learned to distinguish the good from the bad, but even they are unable to give the reasons for their choice.

"The greater number of pictures made by amateurs are simple scenes of city or country life and the following rules borne in mind will aid in securing better composition.

1. Do not attempt to take the whole outdoors in one picture. The average summer outing picture is a good example of what not to do in this respect. A person struggling under a weight of baggage is photographed against a background of a village street or ten acres of city park. Or surrounded with all the tools and appliances pertaining to his favorite sport which he owns or can borrow, in an endeavor to show as much as possible in the picture.

2. The picture should tell but one story, so that a beholder will not be in doubt as to what was intended to be the principal object of interest. In a picture of a figure the landscape should be of secondary interest. While in landscapes the figures should be incidents.

3. Do not have light and shade in patchy spots all over the picture.

4. Do not put the object of principal interest in the exact center of the picture.

5. Do not have the lines in the composition all sloping off to one side, nor have the figures apparently walking off the paper.

6. Do not have prominent objects in a straight line nor with equal distance between them.

7. Remember that an effect of distance is produced by a lack of sharpness in outline as well as by diminishing size.

8. Keep a proper balance between light and shade.

9. Look out for the foreground. The lower corners should not be a barren waste, nor should anything important appear in them.

10. Do not think that because the plate is 4 x 5 or 5 x 7 that the picture must be the same size. In practically all cases a portion of the print should be cut away. And it is often very difficult as well as a very important matter to know just where the cutting should be done.

Don't forget that in — by means of exhibitions, demonstrations, criticism and lectures teaches art in photography. And enables the camera user to realize the greatest amount of pleasure and profit from his efforts, while the association with others of mutual interest provides the incentive to do better work."

☆ ☆ ☆

I am happy to inform you that a special booth or gallery, for the display of Pictorial Photography, is now assured in the Palace of Liberal Arts.

Please therefore advise me *before Dec.* 15, whether you still desire to exhibit your photographs of this class. If so, state the exact number, with size (unframed) of each photograph that you wish to submit for consideration of the Committee on Selection. For the sake both of economy to you and readier handling by us, we prefer all these photographs to be expressed (charges prepaid) *without* frames. The

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committee can then have the accepted photographs suitably framed here, with glass.

A flat charge of Two Dollars will be made by this Department for *each* Photograph exhibited (large or small), to cover the cost of framing, glass, hanging and maintenance. This remittance should be sent at the same time the photographs are forwarded, and be made payable to the "Panama-Pacific International Exposition." A refund of Two Dollars will be made for each photograph that is not accepted.

If exhibitors are especially desirous of sending their photographs already framed, they may do so and, if acceptable, these will be hung as received, for which a flat charge of One Dollar per photograph will be made.

Please do not forward your Photographs until you receive further notice from this Department as to just *How, When* and *Where* to send them. I expect to give you these and other particulars shortly after the middle of December, so that you can have your photographs ready to forward early in January, 1915. It will, therefore, be advisable for you to commence preparing them without delay.

No names, addresses, or titles will be permitted on the face of the photographs displayed. This department will place upon each photograph a number by which it can be readily identified in the catalog. The title of the photograph, with the exhibitor's name and address, should be plainly marked on the back of each photograph when forwarded.

All photographs displayed must be covered with glass to prevent possible defacement or other damage.

Meanwhile, kindly let me know as soon as possible whether I may surely count upon you to enter an exhibit, and if so, exactly how many photographs you wish to submit, with the precise dimensions and character of each. Awaiting your reply, and assuring you of my heartiest co-operation, I remain, Very truly yours,

THEODORE HARDY,
Chief of Liberal Arts.

The above form of letter has been addressed to applicants and inquirers for ex-

hibit space in the Pictorial Photograph Gallery at the above Exposition.

★ ★ ★

Blisters on p.o.p. and self-toning paper generally arise from the solutions being at different temperatures, or too warm generally, from the hypo solution being too strong, or from the use in too strong solution of chemicals such as sulphocyanide, which attack the gelatine.

★ ★ ★

TO BLOCK OUT BACKGROUND.

This is a very easy matter. On the film side of the negative go carefully round the outline of the head on the background with a medium soft retouching pencil or finely pointed paint brush and any opaque color, such as ivory-black or vermilion, and thus get an opaque line about $\frac{1}{8}$ in. wide. Then cut a paper mask of black or other opaque paper, and attach this to the glass side of the negative. Or you can flood the glass side of the negative with a red varnish, such as actinone, and then, when this is dry, scrape away the varnish from all those parts that are not desired to print white.

★ ★ ★

To tell if a camera is light-tight, a simple plan is to put an incandescent electric lamp in it, the wires being led in through the lens aperture, the glass being temporarily removed, and the wires made a light-tight fit in the opening, by means of a focusing cloth. Any light leakage can be seen in an instant in a dark-room. The light should not be left on long, on account of the heat; but half a minute is ample for the purpose.

★ ★ ★

Although chemicals are often sold in paper packets, they should never be stored in them. Not only is the paper a very poor protection from the air and from moisture, but it may itself be attacked by the chemical, or it may absorb solution and contaminate it. A stoppered bottle is not a necessity even for chemicals which need to be very securely closed; a sound well-fitting cork is at least as air-tight as the average glass stopper; and if it is sealed over with paraffin wax or similar material is even more so.



Photographic Reviews

PICTORIAL LANDSCAPE PHOTOGRAPHY, Paul Lewis Anderson. Wilfred A. French, Publisher, Boston, Mass. Price, \$1.50 net.

The manuscript and illustrations in this book appeared in serial form recently in *Photo-Era*. The contents are in three parts: The Subjective Side, Subjective Technique, Technical Methods.

Mr. Anderson is a well-known writer, lecturer and teacher upon photographic subjects. Since the aim of all landscape photographic work is the portraying of the beautiful it behooves the photographer to select the subject and in arranging see to it that the whole is properly balanced—express in the finished product some degree of feeling or emotion that not only gives pleasure to himself but to others.

On the subject of Technique Mr. Anderson gives the comparative values of Composition, Definition and Detail and refers to the many printing processes to produce the highly desirable harmonious picture.

This book will be found of great help to those desirous of obtaining further information on this particular branch of photographic endeavor.

Straight photography as far as record photography is concerned is without doubt the best and easiest, but for pictorial landscape work we agree with the author that it is a mixture of photography and handwork, as long as the handwork is not apparent.

THE SPELL OF SPAIN, by Keith Clark. The Page Co., Boston, Publishers. \$2.50 Net.

It can be readily understood that close association with a subject of interest invariably leads to fascination of the subject. Is it not so with photography? The more effort we put in the securing of better pictures, the more effort and time we are willing to spend to secure the realization of our desires. The same is applicable to students of history, etc. The more they read of places and events that have transpired, the greater is their desire to see for themselves.

For probably this reason alone we have the record of a journey covering the whole of Spain, a visiting the quaint and historic cities, the ancient cathedrals and castles, and the world famous art galleries, containing priceless paintings of the old masters.

To Spain as to probably no other old world country we owe more for our existence than to any other and it seems quite natural that Spain should be of intense interest to everyone. Fifty-two illustrations, four of which are in color, embellish the pages, besides a large map in color.

Mr. Clark's manner in acquainting the facts is not in the usual manner of reading, but rather more of the story telling style. The descriptions are very realistic and satisfying.



[Officials and other members of Camera Clubs are cordially invited to contribute to this department items of interest concerning their clubs.—THE EDITORS.]

The Los Angeles (Cal.) Camera Club will hold an exhibit during the first week in February, 1915. Pictures must be submitted to the hanging committee two weeks in advance of the exhibit, which will be open to all who are members of the club at that time. In addition to the usual annual exhibit there will be a separate division of photographs in natural color for the Autochrome workers of the club.

The hanging committee, which will pass on pictures to be hung in the exhibit, will consist of three members, one of whom is a club member, it is probable that one will be known mural painter, worker in oils and amateur photographer. Of the two non-club members, it is probable that one will be Mrs. Sabra Cather Woodford, an artist of ability, particularly well versed in composition. The third member of the committee will be another artist of repute with an understanding of and sympathy for artistic expression by means of photography.

T. K. ADLARD, Secretary.

☆☆☆

Under the auspices of the Essex Camera Club of Newark, N. J., a tablet was unveiled November 28th in the Public Library of that city as a memorial to the Rev. Hannibal Goodwin, inventor of the photographic film.

George A. Hardy, president of the Essex Camera Club, was master of ceremonies, and introduced the speakers: Mr. Arthur V. Taylor, of the Barringer High School and Schoolmen's Club, who sometime ago took up the task of marking in tablets the historic and civic points of interest in the city; Mr. W. W. Lakin, a charter member of the Essex Camera Club, and a fellow worker

in photography with the Reverend Goodwin.

Mr. Frank J. Urquhart outlined briefly the value to the world by the discovery of the photographic film.

Master Phillips Goodwin, a grandson, unveiled the tablet, after which President Hardy presented it to the city. After a few words in appreciation, Acting Mayor O'Brien accepted the tablet for the city. A representative of the PHOTOGRAPHIC TIMES was among those of the photographic fraternity present.



Fac-Simile of Tablet Unveiled

THE PHOTOGRAPHIC TIMES

The Fourteenth Annual Exhibition of the Wilkes-Barre Camera Club will be held in the club rooms, 131 South Main Street, Wilkes-Barre, Pa., February 22d to 25th, 1915. Entry list closes February 6th.

It is planned that this year's exhibition will surpass all previous exhibitions in the number and quality of the pictures.

★ ★ ★

ESSEX CAMERA CLUB, NEWARK, N. J.

The Essex Camera Club held its annual election of officers Nov 24th. The following were chosen: George A. Hardy, president, re-elected; Charles A. Knapp, vice-president; Frank L. Ferguson, treasurer; Louis Gebhardt, recording secretary; J. A. Dolan, financial secretary. The new board of governors will consist of William H. Goulden, John Flanders, J. W. Felix, J. Wallace and C. A. Knapp, chairman.



FIFTH AVENUE—WINTER *Floyd Vail*

BISSELL COLLEGE OF PHOTO-ENGRAVING.

Among the students enrolling at the college last month was a young Chinese, Mr. Ho Chung Ming, who is taking the course in Three Color Work. Mr. Ho is one of the "official students" of the Chinese government, having been sent to this country to fit himself for educational work in his native land, and he will be expected to enter the government service on his return home.

Pres. Bissell has donated four beautiful silver cups as trophies for the students during the coming year. One of the cups will be awarded for the best portrait photograph made at the College Camera Club for the quarter; one cup for the best display of graduation work during the year; one cup for the best specimen of air brush work made during the year, and a Grand Trophy Cup for the best portrait made at the college during the year.

The Viewing Class has been taking advantage of the Indian Summer weather we are having, and getting some beautiful autumn scenes.

The College Basket Ball Team has been in training for some time and will play the first game of their schedule the first week in November. The girls assisted in financing the team by giving a basket social where partners with basket lunches were auctioned off to the affluent young men.

Mr. Weed of the Smith Butterfield Photo. Supply Co. and Mr. Hood of the Collins Card Mount Co. made professional calls at the college last month.

Students Hassler of 1913, Fuller of 1914 and Record of 1913 have returned to finish their courses.

Prof. A. G. Penrod has taken charge of the department of negative making and laboratory work at the I. C. P., succeeding Mr. H. L. Berndt who resigns to engage in business for himself.



[Manufacturers and dealers in photographic goods and supplies are urged to send us descriptive circulars of their new products for presentation in this department.—THE EDITORS.]

While the new Autographic Kodak is the biggest photographic advance in twenty years, the attachment, itself, is perfectly simple—just a case of “you do the writing, it does the rest.” Any negative worth the making is worth a date and title, and the value of every picture is increased by the ability to identify it positively in the years to come. Many Kodakers seem to be under the impression that to get the benefits of the autographic plan, they must buy a new Kodak. Any owner of one of the popular sized Kodaks, however, can make his Kodak autographic by the purchase of an autographic back to use in place of the regular back. And the price for the autographic back is small, indeed, when you consider its advantages. We advise all our friends to seize the first opportunity to examine the Autographic Kodak at their dealer's. Its simplicity will be a revelation.

★ ★ ★

A new vest-pocket camera has been placed on the American market by the importers the Standard Scientific Company, 147 Waverly Place, New York. It is convenient and efficient and has the simplicity of a fixed-focus camera, of substantial construction and equipped with high speed anastigmat lens of superior quality. When closed the camera measures only $3\frac{1}{4} \times 2 \times 4$ and takes pictures $1\frac{1}{2} \times 2\frac{1}{4}$ on a roll film. The body is of metal, black enamel finish with nicked trimmings and black leather bellows. It has a brilliant reversible finder, automatic shutter with iris diaphragm and adjustment for time, bulb and three degrees of instantaneous exposures. It is ready for instant action by simply pulling out the front. An automatic catch adjusts it for universal focus, and everything up to a few

feet from the camera is rendered sharp. There is no need of judging distances and no failure through misjudging them. When occasion necessitates it can be focused for near objects. The price in soft leather case is from \$12.00 to \$20.00.

★ ★ ★

PHOTOGRAPHS IN COLORS.

Mr. George Eastman, president and founder of the Eastman Kodak Company, has announced that after years of experiment and the expenditure of several hundred thousand dollars the company has perfected a process of color portrait photography. The process is said to be the first color photography method that has been simple enough to be used by the ordinary photographer.

Photographs taken by the process by photographers, without previous training, have been shown privately at the Eastman Company's offices. They were placed on exhibition in the Memorial Art Gallery at the University of Rochester. The photographs, which cannot be printed, but remain on the plate and are exhibited as transparencies, are said to excel other color processes in their quality of luminosity and in reproducing the contour of features. The perfection of the process is credited to John G. Capstaff, an assistant in the research laboratories of the Eastman Company.

★ ★ ★

In a series of papers on “The Features of the Human Face,” by Sydney Allen, which *Portrait* is running, “The Eyebrows” constitutes the second installment, and is well worth reading.

THE PHOTOGRAPHIC TIMES

We beg to offer you, herewith, the final report of the Second Rochester Photo Works Enlarging Contest. Prizes have been awarded as follows:

First Prize—Mrs. C. B. Fletcher, 1131 Balboa St., San Francisco, Calif. Title—"Cupid."

Second Prize—Robert E. Stoll, 4812 Be-
loit Rd., Milwaukee, Wis. Title—"Jolly
Cobbler."

Third Prize—Ethel Tomar, 81 Ledyard
St., Detroit, Mich. Title—"Old Lady Be-
fore Fire."

Fourth Prize—Alexander Murray, 4238
Washington St., Roslindale, Mass. Title—
"Marine."

Fifth Prize—Lawrence Baker, 717 Fifth
St., Marietta, O. Title—"Lone Road" No.
115.

Sixth Prize—G. M. Allen, 112 First St.,
Portland, Oregon. No. 16.

Seventh Prize—Mrs. Alice Foster, Wyo-
ming, O. No. 108.

HONORARY MENTION.

Print No. 105, N. G. Cartlich, 418 Wilson
St., Winona, Minn.; No. 116, A. Fidler,
3711 Greenview Ave., Chicago, Ill.; No.
120, W. I. Thomson, P. O. Box 2874, U. of
M., Minneapolis, Minn.; No. 69, H. C. Fer-
ris, 4332 Wolff, Denver, Colo.; No. 81, L.
V. Richard, Orient, N. Y.; No. 64, G. E.
LeCount, 42 N St., Pittsfield, Mass.; No.
6, W. S. Davis, Orient, N. Y.; No. 11, H.
W. Congdon, 18 Broadway, New York,

N. Y.; No. 17, G. M. Allen, 112 First St.,
Portland, Oregon.

We have again felt very much gratified
over the quality and the number of the
entries made and in order to show our
appreciation, we again have added some
extra prizes to those advertised. Fourth
and Fifth: \$5.00 cash; Sixth and Seventh:
3.00 worth of paper. We call attention to
the fact that with the exception of the third
prize, the paper used for all the successful
enlargements have been Velour and Brome
Black. The third prize winner is on an
unnamed Bromide paper.

We confess that these enlarging contests
are rapidly becoming a very fascinating pas-
time to ourselves as well as to our amateur
friends. In future, entries, even those not
successful in receiving prizes, shall receive
careful consideration and will be criticized
if desired.

We again wish to express our deep ap-
preciation to the Jury of our contests, Mr.
Abel, Mr. Fraprie, and Mr. Adams, to
which we are very much obliged for han-
dling these contests, as it seems to general
satisfaction of the contestants. The mere
fact of having one's work passed by so
competent a Jury and in so high grade a
contest alone is worth while entering the
Rochester Photo Works Enlarging Contest
and we hope that the number of contestants
will continue to grow as it has heretofore.

Yours very truly,

ROCHESTER PHOTO WORKS, INC.



WHO SAID SCAT?

T. Denny

The most satisfactory way to show photo prints—the way every one is sure to enjoy—is with the



Bausch^{and} Lomb Balopticon

THE PERFECT STEREOPTICON

Or if you prefer to make lantern slides you will find the clear, brilliant image projected by the Balopticon a most striking reproduction of your pictures. Its mechanical durability, its ease of operation and its exceptional optical efficiency mark it as the most satisfactory of lanterns.

*Read the details of these two models
from the wide Balopticon line.*

The Home Balopticon (shown below) for the projection of photo prints and other opaque objects is the most efficient and dependable lantern ever offered at a moderate price for this form of projection. Its special *nitrogen-filled Mazda lamp* gives a brilliant illumination heretofore unequalled in instruments of its type—and its simplicity of operation throughout makes it particularly attractive to the amateur. The achromatic lens is of high quality, giving im-

ages of the Balopticon standard—clear, crisp, sharply defined over the entire field. Price complete \$35.00.

The Combination Model at \$45.00 provides for both opaque and lantern slide work—with instant interchange from one to the other.

Send for full information and prices of Balopticons—also special circular about slide making and the use of a lantern.

Bausch & Lomb Optical Co.

561 ST. PAUL STREET ROCHESTER, N.Y.

Makers of the celebrated Tessar and Protar Lenses and other high-grade optical goods.



There was never any doubt in the minds of either novice or advanced amateur but that Anistigmat equipment made for greater efficiency in photographic work. At the same time, the purchase of this equipment meant the expenditure of quite a sum of money—more than many of us could afford. The Eastman Kodak Company has now made it possible for every amateur to provide himself with an anastigmat lens, and at a price only slightly above that of the regular R. R. lens. This new lens is the Kodak Anistigmat f.8 and it gives definition and covering power equal to the most expensive anastigmat on the market. The speed, f.8, is, of course, not an extreme speed, but it will answer adequately for the everyday work of the average amateur. And remember that at f.8, its covering power, definition and freedom from astigmatism is the equal of any anastigmat known, regardless of cost.

☆ ☆ ☆

We are so much interested in enlarging that the Bausch & Lomb Optical Co. have put out a special circular entitled "Enlarging with Condensers." The circular shows the way an enlarging apparatus should be set up, and gives instructions as to the adjustment of light, the lens to use for enlarging and information regarding the improved mountings for the photographic sizes of condensers.

Circulars will be mailed on request to anyone who is interested. Address Bausch & Lomb Optical Co., 626 St. Paul St., Rochester, N. Y.

☆ ☆ ☆

If you don't use a Kodak Film Tank you are doing yourself and your negative a great injustice. You aren't fair to yourself, because the stuffy dark room takes half the pleasure out of developing, and you aren't fair to your negatives because there is only one method that will give you the best results—tank development. Many an otherwise good negative is spoiled by fog; but

fog during development in the Kodak Film Tank is an absolute impossibility. Better let your dealer show you one.

☆ ☆ ☆

Considerable interest is being manifested throughout the country regarding the award of the Jury in the Loveliest Woman Contest of the Ansco Co. which closed December 1st for which The Ansco Co. offered prizes of \$5,000. It will probably be some time yet before the Jury can make known the result as we are advised that the entries were overwhelming. The prize winners will be exhibited at the Panama-Pacific Exhibition in San Francisco.

☆ ☆ ☆

The big reason, we suppose, why Eastman Special Developer has come into such general use among amateur photographers is because of the fact that it does not stain the fingers. There is another reason, however, which may not have occurred to you—namely, its convenience, for Eastman Special Developer is the one real universal developer. It may be used successfully for film or plates, (tray development) and paper, and the results obtained could not be improved upon by the use of any other developing agent.

☆ ☆ ☆

A. W. Dewey, of Fargo, N. D., is the subject for the cover illustration of *Portrait* for December.

☆ ☆ ☆

Amateurs can make considerable money as a side line by forwarding their negatives of their local views to several of our advertisers who make a specialty of printing post-card views in quantity. A little canvassing of your immediate neighborhood will convince you of the opportunity to dispose of these views to your financial benefit. Look into it now before someone beats you to it.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

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Practical Instruction in Photography,
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**FORMERLY \$50.00
NOW \$30.00**
**Turn Night Into Day
WITH THIS LAMP**
PHOTOGRAPHERS: You should get one of these lamps. Send for our proposition before buying elsewhere. Fully described in catalogue No. 114. Send stamp to-day
WILLOUGHBY
810 Broadway, New York

WANTED PHOTOS 50c each

paid for original photos of young ladies heads suitable for commercial illustrating. Rejected photos returned if postage is enclosed.

C. M. SHEDD, 193 Farmington Avenue
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MAKE MONEY WITH YOUR CAMERA

Every amateur and professional photographer can have steady profits supplying retail dealers with Photograph View Post Cards. Let us tell you "how." Complete plan free. Write NOW.

The Photographic Advertising Co., Inc.
30-32 West 15th St., NEW YORK, N. Y.

STOP! LOOK!

Our New No. 10 BARGAIN LIST which is now ready is better than ever. Contains some startling values in Cameras, Lenses and Photographic Supplies. Imported Ica and Butcher Cameras. Headquarters for Cyko Paper.

Write today for FREE COPY
NEW YORK CAMERA EXCHANGE
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HANDY REDUCING PASTE

QUICKEST and SAFEST

For accurate local work on a DRY NEGATIVE

1 Box and Directions, 30 cents

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Learn a Paying Profession

that assures you a good income and position for life. For so years we have successfully taught

PHOTOGRAPHY

Photo-Engraving and Three-Color Work

Our graduates earn from \$20 to \$50 a week. We assist them to secure these positions. Learn how you can become successful. Terms easy—living inexpensive. Write for Catalogue—NOW.

ILLINOIS COLLEGE OF PHOTOGRAPHY
967 Wabash Avenue, Effingham, Illinois

Photographers Sell Post Cards from your negatives. Put them in the stores, there is money in it. YOU HAVE THE NEGATIVES, WE WILL MAKE THE CARDS

100 from 1 negative,	\$ 2.00	from 5 to 10 negatives,	\$ 3.25
300 from 1 negative,	4.20	from 5 to 10 negatives,	6.30
500 from 1 negative,	6.25	from 5 to 10 negatives,	8.00
1000 from 1 negative,	10.00	from 5 to 10 negatives,	12.50

Delivery from 3 to 5 days, return postage 10 cents per 100. Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens in cells, with case, will cover 5 x 7 plate wide open, \$18.00 post paid.

We take cameras, lenses, etc., in exchange. Ask us before buying.

WRIGHT PHOTO SUPPLIES RACINE, WIS.

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

The Picture Worth Taking is Worth Keeping.

*The
Kodak
Album.*



A thousand dollars is a pretty steep price to ask for an album, isn't it? And yet if you had an album filled with pictures taken in your boyhood days, pictures of your childhood friends now grown into men and women, of the "bunch" at the swimming hole, of your base-ball team after they had "taken the starch outta" the North Side Stars, of your first sweetheart—if you had such an album would you part with it for a paltry thousand? Such a collection is priceless,—a Croesus could not afford to buy it.

It is too late for you to start such an album, although, of course, you are keeping your vacation pictures as well as the other prints to which you attach any value, in this fashion; but how about the children? Why not give them the opportunity you missed? After the Kodak or Brownie, one of your first gifts to the children should be an album, for it is only in this way that their pictures will be preserved clean and untorn—in fact it is the only way they will be preserved at all.

Particularly valuable is the album to the boy or girl away at school. These memories of school and college are too sacred to be trifled with and deserve to be safely mounted between the covers of an album. How many times have you said to yourself, "Oh, if I had only kept a diary while I was at school?"

Yet, in later years, one picture from your album will tell you more than countless pages from a diary—and compiling an album is a delight, while keeping a diary, a bother.

If you have a baby at your home, so much the better. Begin the album yourself, using an Autographic Kodak. The data made possible with the autographic attachment will double the value of the baby's pictures in the years to come. Then when the baby grows up so that he can do his own Kodaking, let him continue the collection where you left off.

Your dealer carries a complete line of Kodak albums, from the Snap-Shot Album, costing fifteen cents, to the Interchange Album, costing five dollars, so that you are sure to find the kind that best suits your needs.

The Interchange Album is the longest-lived and is just the thing for an extended collection. It is furnished with 50 linen finished leaves to which extra leaves may be added as desired.

The Kodak Album is another feature of the album line. There is no mounting necessary in this album, the prints being simply inserted in pockets. Then there is the Tribune Album, the Agrippa Album, the Arena, the Tiber,—you would be hard to please indeed, if you could not be suited from this assortment.

The picture that is worth the taking is worth the keeping.

Eastman Kodak Company

ROCHESTER, N. Y., The Kodak City.

THE KODAK FILM TANK.



Kodak and simplicity have become such fast friends now-a-days that where you find the one you find the other. It is a friendship which began a quarter of a century ago and has ripened into real comradeship through the years. To cement this tie, to bind the two so irrevocably that whenever you thought of Kodak you thought of simplicity, a little device called the Kodak Film Tank came into existence—and with it the expression—“daylight all the way.”

It used to be true that only the experienced photographer could develop films properly—and even *he* was apt to make costly mistakes now and then. The Kodak Film Tank has changed all this. Now anybody can develop his films—and anybody can get results better than those obtained by the veteran photographer who still sticks to the tray. There is over twenty-five years of practical experience tucked away in each one of these little tanks—a valuable heritage for even the advanced amateur and a godsend to the novice.

The exact time necessary for development, the correct use of the chemicals, has all been worked out by experts—the amateur cannot go wrong if he only follows the simple instructions. Without a dark room, in broad daylight, the amateur will get results not comparable with those secured by the skilled pho-

tographer with his tray—but *uniformly better*.

The Kodak Film Tank consists of a winding box, a light-proof apron and a heavily nicked brass solution cup with cover. By simply turning the crank of the winding box, the film, duplex paper and light-proof apron are wound together on a metal reel, the apron being on the outside and serving as protection against light. The metal reel containing the film, duplex paper and apron may now be removed in broad daylight without any danger of the film becoming fogged. It is then placed in the solution cup previously filled with the developing solution mixed from powders according to definite and simple directions, where it is left for twenty minutes. At the expiration of that time, the film is separated from the duplex paper and apron—a very simple operation—and plunged into the fixing bath.

As the tank is light-proof and air-proof, the films cannot be fogged during development and are consequently more brilliant and of better printing quality than those obtained by any other method. There is always a chance of fogging the films in the dark room, for few dark rooms are absolutely perfect, and there is always a chance that light may be leaking in. Sometimes when the fog is not strikingly apparent, comparison between a negative developed in the tank and one developed by the dark room method will reveal its presence. The first will be crisp and brilliant, while the second will be lifeless and dull. This is the one fact that clinches the argument. Putting aside the convenience of the Kodak Film Tank in which you can do your developing in daylight, wherever you please, as compared with the inconvenience and bother of the stuffy dark room, the fact that tank development yields you the best possible negatives, is the one point that drives the story home.

(2)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

THE PRICE.

Brownie Kodak Film Tank, for use with No. 1, No. 2 and No. 2 Folding Pocket Brownie cartridges, complete,	\$2.50
Vest Pocket Kodak Film Tank, for Vest Pocket cartridges, complete,	2.50
2½-inch Kodak Film Tank, for use with all Kodak or Brownie cartridges having a film width of 2½ inches or less, complete,	3.50
3½-inch Kodak Film Tank, for use with all Kodak and Brownie cartridges having a film width of 3½ inches or less, complete,	5.00
5-inch Kodak Film Tank, for use with all Kodak and Brownie cartridges having a film width of 5 inches or less, complete,	6.00
7-inch Kodak Film Tank, for use with No. 5 Cartridge Kodak or shorter film cartridges, complete,	7.50

A UNIVERSAL DEVELOPER WITH THE STAIN LEFT OUT.

A young photographic friend of ours spent the holidays at the home of his grandmother and was surprised and a little hurt at the coolness of his reception. "Why, what's the matter, grandma?" he asked. "Only to think, John, that *you* should become a cigarette fiend," she said sadly. "Your fingers tell the whole pitiful story."

Now, of course, John wasn't a cigarette fiend and the telltale stains were caused by developing solutions, but it took a lot of argument before grandma was finally convinced.

When John came home, about the first thing he did was to go to his Kodak dealer's to inquire whether or not there was such a thing as a developer that would not stain the fingers. "There certainly is," was the dealer's reply, "Eastman Special Developer will not stain the fingers and, in addition, is a most convenient agent for it's a universal developer—it may be used successfully for both prints and films."

Some developers do stain the fingers, but there are plenty of methods for removing the stain when it does appear.

However, many amateurs refuse to be careful—all of us dislike precautionary measures, anyway, and consequently the tips of our fingers *do* turn yellow and often place us in awkward positions in consequence. Eastman Special Developer makes it possible for the most enthusiastic photographic amateur to attend a dinner party without wishing he could wear his white gloves right through the function.

And the fact that Eastman Special Developer is a universal developer makes a strong appeal because of its obvious convenience. The standard developer for negatives is Pyro, but Pyro is not a successful agent for developing prints: the standard developer for prints is Elon-Hydro, but Elon-Hydro does not produce the best negatives. Eastman Special Developer is a satisfactory developing agent for films and, as a developer for prints, is as good as the standard, Elon-Hydro.

It must be borne in mind, however, that no developer capable of making prints is recommended for use in the tank development of films, because the success of tank development is based on the action of Pyro, of which Eastman Tank Powders are composed.

Any agent developing films or plates (tray development), lantern slides, Velox, Bromide and other papers with excellent results—and all this the Eastman Special Developer does—has fairly earned its right to be termed a real universal developer.

Your Kodak dealer carries it in cartons of five powders in glass tubes, or cartons of six powders, paraffine wrapped, either carton costing twenty-five cents.

Color your prints

VELOX TRANSPARENT WATER COLOR STAMPS

are self blending and their use is simplicity itself.

Book of water colors,	\$.25
Complete outfit,75

KODAK

ANASTIGMAT *f*.8.

Perfect definition is always desirable—extreme speed is necessary only now and then.

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THE PHOTOGRAPHIC TIMES PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed on March 30th, 1915, so as to be announced in the May Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

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Third Prize, \$3.00

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The competition is open freely to all who may desire to compete, without charge or consideration of any kind. The subject for this competition is "Winter Landscapes."

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

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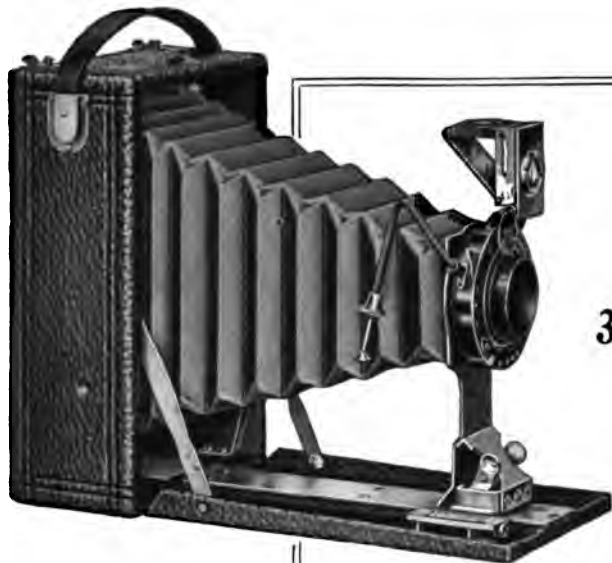
All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

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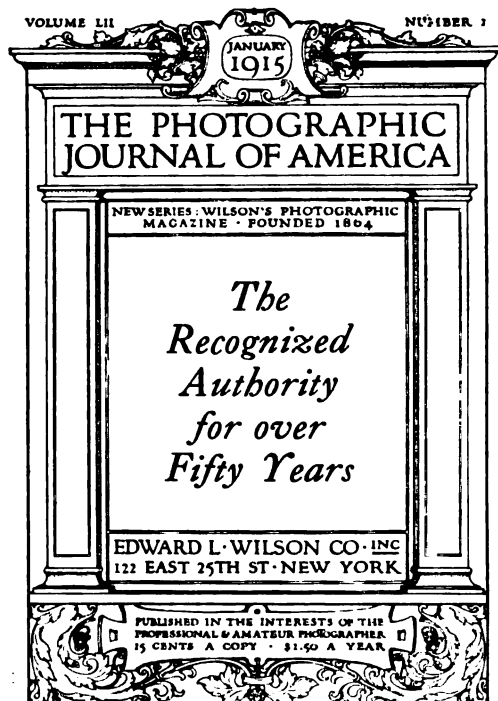
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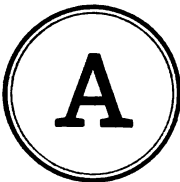
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Volume XLVII

FEBRUARY, 1915

No. 2

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EVELYN

First Prize in THE PHOTOGRAPHIC TIMES Print Competition

Mrs. Wilma B. McDevitt

FEB 2 1915

The Photographic Times

WITH WHICH IS COMBINED

The American Photographer and Anthony's Photographic Bulletin

VOLUME XLVII

FEBRUARY, 1915

NUMBER 2

THE PHOTOGRAPHIC TIMES PRINT COMPETITION

THE Portrait Competition of the series of Print Contests which are being conducted by THE PHOTOGRAPHIC TIMES, has resulted in a higher average of merit on the part of the successful contestants than has characterized any of the previous competitions. The actual number of prints was not so great as in some of the other contests, probably because of the subject, which is one which cannot be successfully treated by as many photographers, particularly amateurs, as landscape subjects; but there was a very good representation of pictures, however, and a large number of contestants. One of our most successful competitors in the past, Mr. F. E. Bronson, undoubtedly would have been awarded at least honorable mention, or high commendation, if his pictures had arrived in time; but, in justice to the other contestants, who had their prints in the hands of the Judges on the closing day, it did not seem quite fair to await the arrival of his prints. Other contestants were also a day or two late, which debarred them from a place in the contest. Some of these pictures may be shown in later numbers of THE PHOTOGRAPHIC TIMES.

After very careful consideration of the contesting prints, many of which were very close in their order of merit, the Judges awarded First Prize to Mrs. Wilma B. McDevitt for her beautiful child picture entitled "Evelyn," which occupies the place of honor in this number of the magazine. Mrs. McDevitt's winning print is an enlargement on Cyko paper from a 5 x 7 plate made in a studio camera with a Voightlander lens. The exposure was five seconds, on a rather dull day, Seed Gilt Edge Plate No. 30 being used, and the developer was Eastman Plate Tank Powder. This print was very effectively mounted on gray clouded paper, which, in turn, had a larger sheet of lighter gray support. We consider this picture one of the very best child portraits we have seen for a long time.

The Second Prize was awarded Mr. John A. Scheurer, who won first prize in our last contest for his picture entitled an "Interpretive Dancer." Mr. Scheurer's picture is a particularly fine example of portraiture, effectively mounted with an appropriate and artistic framing, which we reproduce with the



STUDY *Wm. A. Fisher*
Second Honorable Mention in THE PHOTO-
GRAPHIC TIMES Print Competition



REVERIE *Miss Belle M. Whitson*
First Honorable Mention in THE PHOTO-
GRAPHIC TIMES Print Competition

portrait itself. A Cramer Banner Plate was used, a Goerz Lens, and Haloid Paper of a Sepia tone.

Third Prize was given Mr. Charles A. Lindenschmidt, who received Honorable Mention in a previous competition. His winning print was one of several excellent examples of portraiture, and is entitled "Cleo." It was made with an ordinary side light, in the home, exposure three seconds, stop F/8, on a Hammer Blue Label Plate, developed with Metol Hdyrachonine, and printed on Aristo Platino Paper, toned in gold; the lens was a Goerz Dago No. 5. It is pleasant to note that a contestant who received Honorable Mention in previous exhibitions, had improved to the extent of being awarded a full prize.

First Honorable Mention is given to Miss Belle M. Whitson, for her charming child portrait entitled "Reverie." Miss Whitson is a new contestant, and we hope she will exhibit in future competitions.

Second Honorable Mention is given Mr. Wm. H. Fisher for his attractive portrait of a lady. This picture is particularly well posed, with well arranged drapery, and is developed and printed with taste, but it would have been a little more effective if the illumination on the face had been slightly stronger.

Third Honorable Mention is given to Mr. Carl A. Peterson for his typical boy portrait entitled "Laurie." Mr. Peterson has been highly commended in previous competitions, and shows decided improvement in his work. We hope



PORTRAIT

John A. Schreurs

Second Prize in THE PHOTOGRAPHIC TIMES Print Competition



PORTRAIT STUDY



THE ARTIST Miss Dorothy E. Wallace

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

he will keep on trying, for we feel sure that he will ultimately be successful in landing one of the prizes. This particular print might have been improved if it had not been enlarged quite so much, as it produces a certain coarseness which otherwise would have been avoided; but, with the coarseness referred to, there is a vigor which gives the print a fine strength.

The following excellent examples of portraiture, all of which are reproduced in this number of the TIMES, received High Commendation, and in many competitions would have been successful in carrying off prizes, for they are all in the prize-winning class: "Profile of a Lady," by John A. Schreurs, winner of the Second Prize; "Betty," by Mrs. McDevitt, who secured First Prize. Mrs. McDevitt also received High Commendation for her "School Girl;" Miss Belle M. Whitson, who received First Honorable Mention, is highly commended for her "Julia Belle;" and Miss Dorothy E. Wallace for her "Portrait Study," and a full length portrait of a lady, as well as her "Artist." Mr. Charles Lindenschmidt, winner of the Third Prize, is highly commended for his "Peasant Girl," "Eighty and Eight" and "The Professor." Mr. John B. Buell, who won



CLEO

Third Prize in THE PHOTOGRAPHIC TIMES Print Competition

Chas. Lindenschmidt



LAURIE

Carl Peterson

Third Honorable Mention in THE PHOTOGRAPHIC TIMES Print Competition

first prize for a former competition, is highly commended for his portrait of a child.

Other pictures, not good enough for High Commendation, but which pleased the Judges, are the following: "My Wife's Portrait," by Herbert Jackson, which would have been better if the top light had been somewhat screened; "Romeo and Juliette," by Mrs. L. P. Van Woert, a rather odd subject, well executed; "In the October Woods," an outdoor portrait, and "Nearing Dinner Time," a side light portrait, by Mrs. M. L. Swingle; "Christine," by Carl Peterson; "Child's Portrait," by Miss Whitson; "The Start of the Voyage," an attractive outdoor child portrait, and "O, Look!" a similar subject, by R. P. Hollaway.



PHOTOGRAPHING PRINTS UPON INDIA PAPER AND JAPANESE VELLUM

BY ALFRED J. JARMAN

THE making of photographic prints upon very thin paper presents a few difficulties that do not exist in the coating or preparing of papers of a thicker variety; consequently, to prepare these papers successfully a different method of working is necessary, because paper of such extreme thinness cannot be floated upon a solution or an emulsion with any degree of success. Occasionally a few small metal spots may make their appearance upon the paper when sensitized, in this instance the spot being visible, the paper may be so placed as to bring the spot in some unimportant part of the negative, for instance, in the deepest shadows. As this defect does not often occur, there need be no fear of spoiling much paper on this account.

A few utensils will be required, which are of the simplest description. In the first place, select the paper required; then place a faint pencil mark upon the back of each sheet. This will facilitate matters when the paper is prepared. Now procure a plain glass plate, an 11 x 14 is a very suitable size; a disused negative from which the film has been stripped will prove to be just the thing; also a few sheets of white blotting paper; two rubber-set camel's hair brushes, two inches wide; two tea-cups and saucers; a couple of four-inch-diameter glass funnels; a ten-cent package of absorbent cotton; two dozen wood clips; some No. 16 B. & S. gauge copper wire; a few screw eyes, and a cake of paraffin. The tips only of the clips must be dipped into a very hot solution of paraffin. This will prove to be a preventive of the clips sticking to the paper when coated, or becoming contaminated with the chemical solutions.

Either of the following formulæ may be employed for the purpose. All are capable of giving good results. The following is the salting solution for the first formula:

FORMULA No. 1

Distilled water	10 fluid ounces
Gelatine (a clear soft variety)	10 grains
Common salt	50 grains
Chloride of ammonium	50 grains

Cut the gelatine into shreds; allow them to soak for half an hour, together with the salts in the distilled water. Then place the vessel into hot water, not necessarily boiling. Allow it to stand in this until the gelatine has melted.

A clean strip of white pine forms a good stirrer. As soon as the gelatine has been well incorporated by stirring, the solution must be filtered through a plug of wetted absorbent cotton pressed not too tightly in the neck of one of the glass funnels, which may be placed into a twelve-ounce wide-mouth

bottle. There being only one grain of gelatine to the ounce of water, there will be no difficulty experienced in the filtering operation.

SALTING THE PAPER

Take the glass plate, lay it upon a sheet of blotting paper, mark off several pieces and cut to 11 x 14; clip one of these pieces upon the plate of each corner, then place one of the sheets of thin paper upon the blotter, back down; secure this at one end by two clips, leaving one end free. Now pour some of the gelatine salting mixture into a tea-cup standing in a saucer; this will catch any spillings that may occur; dip one of the camel's hair brushes into the liquid. Then, holding the plate and paper with one hand, pass the brush over the surface from the clipped to the free end with one clean stroke. Repeat the operation until the sheet of paper has become evenly coated, the two clips that held the paper being released and used to grip the coated sheet at one end, which is then suspended to dry by means of a stretched copper wire. A number of sheets may be treated in the same way and dried, because they will keep in good condition for a long time before sensitizing. As soon as the sheets have become dried, they must be rolled tightly upon a smooth card-board roller. One of the ordinary mailing tubes will answer the purpose, after wrapping a sheet of smooth paper upon it. The object of this is to smooth out any inequalities that may occur. Then, when sensitizing takes place, the sheets must be re-rolled in the opposite way so as to flatten the sheets. The whole operation is a very simple one. It can be performed in less time than it takes to describe it. To sensitize the paper the following solution must be made up:

SENSITIZING SOLUTION

Distilled water	3 fluid ounces
Nitrate of silver	150 grains
Nitrate of ammonium	100 grains
Carbonate of soda	10 grains

Dissolve the nitrate of silver first, add the ammonium salt next, shake the mixture well; add the carbonate last, dissolved in two drachms of distilled water; shake the mixture well and filter through absorbent cotton.

SENSITIZING THE PAPER

Attach one of the salted sheets back down upon a clean sheet of blotting paper, upon the glass plate, secured in the same manner as for the salting process. Then under the light of a plain gas jet or an eight-candle-power incandescent light proceed to sensitize by pouring the silver solution into a tea-cup as for salting, employing another two-inch camel's hair brush, and spreading the silver solution carefully over the surface in exactly the same way as in the operation of salting, passing the brush evenly and with a moderate quantity of the silver solution, taking care that no streaks are formed. The coated sheet may now be released as before, clipped and dried away from active light.

Sensitizing may be carried out in the evening, and the drying performed in an ordinary room, darkened. The drying takes place in the course of one hour.



PORTRAIT

John A. Schreurs



A SCHOOL GIRL *Mrs. Wilma B. McDevitt*



BETTY

Mrs. Wilma B. McDevitt



JULIA BELLE

Miss Belle M. Whitson

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

THE PHOTOGRAPHIC TIMES

When the sheet of paper is lifted it should be held so that if any silver solution drips from it, the dripping should be received in a small graduate and eventually returned to the stock bottle. When the sheets are dry they may be printed from any good negative, and finished by toning to any color—from a rich brown to a purple-brown.

The printing must be carried to a good depth, which, with quick toning, will give rich browns, while by longer toning purple-browns will result.

WASHING THE PRINTS

Owing to the paper being thin, the washing of the prints is best performed by taking a clean tray and laying each print back down, holding the print by the upper end, then pouring clean cold water upon the surface, allowing this to soak for a short time, then repeating the operation until no milkiness occurs; then carefully lifting the sheet by two corners and laying it down in another tray of clean water. As soon as this is done, toning may be proceeded with.

TONING AND FIXING THE PRINT

Make up the following toning solution, which should be allowed to stand for twenty-four hours before use:

GOLD TONING BATH

	Water	34 fluid ounces
A	Acetate of soda	60 grains
	Common salt	30 grains
	Bicarbonate of soda	15 grains
	Chloride of gold	4 grains

Tungstate of Sodium and Gold

	Water	20 fluid ounces
B	Sodium Tungstate	40 grains
	Chloride of gold	2 grains

This toning bath may be made up and used as soon as mixed. It gives very fine brown tones, may be used over and over again by adding a small quantity of chloride of gold solution each time it is used. The A bath may also be used many times over by the addition of a small quantity of gold chloride, but this bath is capable of giving very rich purple tones. It must, however, stand a full day before use.

TONING THE PRINTS

As soon as the prints have been washed they may be placed into the gold solution, *toning each one separately*, because they are apt to be torn in the handling if more than one is manipulated at a time. Toning takes place rapidly, about thirty seconds or one minute at the most. The faintest change in color is all that is required. As soon as toned, place them into cold water, and fix them in a plain solution of hyposulphite of soda, three ounces to twenty of water. Fixing will be complete in about five minutes, because the solution

penetrates these thin papers readily. Both India paper and Japanese vellum may be treated and the various operations conducted at the same time.

The washing of these prints may be best carried out by passing them from one tray of clear water to another. Should running water be used, the prints will slide over the top of the tray, while if held within the tray by placing a glass plate on top, so that the water may run out at one corner, the prints will become folded, which, owing to the thinness of the paper, will become cracked or otherwise ruptured so as to injure the surface. As soon as they have been well washed they must be carefully blotted between sheets of clean blotting paper, and then laid upon another clean blotter to dry. Another way to produce this class of print is to employ a solution made up of a salt of iron and silver. In this case no separate sensitizing operation is necessary. One operation covers the preliminary part of the process. The prints made by this means may be toned or not, the fixing process giving a beautiful brown image, and if the image is only half-printed, it may be developed in a mixture of potassium oxalate and Rochelle salts.

The following preparation is easily made, costs but little, and will yield excellent prints with certainty.

FORMULA No. 2

FERRO-ARGENTUM SENSITIZER

- | | | |
|---|--|-------------------|
| A | Hot distilled water | 2 fluid ounces |
| | Nitrate of silver | 1/2 ounce avoird. |
| B | Hot distilled water | 2 fluid ounces |
| | Citric acid (crystal) | 1/2 ounce avoird. |
| C | Cold distilled water | 4 fluid ounces |
| | Citrate of iron and ammonia (green scales) | 1 ounce avoird. |

When the salts are dissolved, add B to A. Shake this well. Then add this solution to C. Shake the mixture well, filter through a plug of absorbent cotton. When the mixture is cold it will be ready for use. It may be added here that this mixture if kept in an amber-colored bottle will keep good for six months or longer—of course always keeping it away from actinic light.

The coating of the paper is carried out in just the same way as for that already described for the salting and sensitizing, only one coating being necessary, and when this is dry, the paper will be ready to print. When printing upon paper coated with this preparation, the printing must not be carried too far—only to a moderate depth—because further development takes place as soon as the paper is washed in water, while it develops still further when placed in the hyposulphite of soda fixing bath.

The above method will give very rich brown prints, while toning them in a gold bath will render the color purple brown. Toning must be carried out before fixing, two changes of water being given them after toning and

before fixing. The gold bath that suits the purpose in this case is the borax bath made simply as follows:

Water 32 fluid ounces
Saturated solution of borax 3 fluid ounces
Chloride of gold 3 grains

This bath may be used as soon as mixed, and may be used repeatedly, simply by the addition of a small quantity of chloride of gold solution (one grain in one ounce of water) just before use, a test being made with red litmus paper, so that it shows a slight alkaline reaction by changing the red to blue. The fixing of these prints is carried out in the same manner as for the salted paper, the washing of them likewise. The brilliancy of the prints upon salted paper may be increased by using the following preparation in place of the No. 1 gelatine formula:

FORMULA NO. 3

Albumen of one egg.
Distilled water 10 fluid ounces
Chloride of ammonium 40 grains
Chloride of sodium 60 grains

The albumen must be well beaten with a silver-plated fork in a basin with four ounces of the above water, then placed in a bottle with the other ingredients and shaken well several times during twelve hours. At the end of that period it must be filtered through a plug of wet cheese cloth, or well strained through wet cheese cloth twice. The resulting solution may be used in place of the No. 1 formula.

The brushes used for this work must be washed well after use, while still wet, and each brush marked for its respective purpose.

In the first part of the process, when the prints are washed upon the bottom of the tray, some water must be poured into the tray to cause the print to float, so that it may be easily handled; also to prevent the print clinging to the tray, which might cause it to become torn.

The object of washing a print in this manner is to give support to the paper because of its extreme thinness. Considerable care must be exercised in all the operations, and when the print is mounted it must be done by just touching the two upper corners with a very thin paste, or by a touch of mucilage.



PORTRAITURE WITH A HAND CAMERA

BY F. C. LAMBERT, M.A., F.R.P.S.

With Six Illustrations by the Author

MANY—perhaps the majority of people who use a hand camera have somewhere at the back of their minds, some sort of notion that really serious portraiture, or, indeed for matter of that, any serious photography at all is out of the question with a hand camera. The old notion that the hand camera is only a toy for “grown-ups” still lingers unexpressed.

It goes almost without saying that for *certain* work a professional studio and all its paraphernalia of stand cameras, painted background, etc., are best. A certain section of the public still think that a photographic portrait must contain a certain amount of the conventional element. Although the pillar and curtain of half a century ago have gone with the head rest they were designed to hide; yet to not a few of those who *pay* to have their photographs done “properly” (*i. e.*, professionally), they cling to the waterfall, the rustic bridge, the ruined castle, and the baronial hall backgrounds.

On the other hand “the voice of the prophet hath shaken the land,” in other words, the omnipresent amateur with his inseparable companion, *i. e.*, a hand camera, is beginning—nay—has gone beyond the beginning stage and has assuredly taught the younger half of the population that these conventional methods and accessories are untrue and out of date; that above all things *naturalness* is the one essential in portraiture. Parents want portraits of their children showing them as they see them every day and not “dressed up fine for Sundays.” Often they prefer some snapshot result by an amateur friend—although it is a very, *very* poor technical result to a studio, stiff arrangement in faultless technique.

I am personally convinced that the younger generation of parents will demand a style of family portrait vastly different to that which satisfied their own parents a generation ago.

The amateur has taught the lesson of the possibility of more homelike surroundings, less convention as to pose, expression, lighting, etc.

Now what is the upcast of all this change? Just simply this: The wide-awake professional photographer will not be silly enough to “kick against the pricks,” but will extend his outlook so as to take advantage of the trend of taste. “What can’t be cured, must be cooked and eaten,” says the pork merchant. “If the people want ‘homey’ pictures, we must supply them,” says the sensible professional man. “For if I don’t they will go to some one else who will give them what they want.”

In a word the astute professional instead of blaming the amateur for making “bad business,” will take the hint and aim at beating his new rival—using the same tools—or the hand camera. If I were tempted to become a profes-

sional photographer, I would certainly include in my kit a hand camera—preferably of the reflex type, with a rapid anastigmat lens—and, moreover, would lay myself out, whenever time and opportunity permitted, to experiment and practice with it, in home portraiture, indoor, outdoor, and at the door. Possibly some professional reader may sniff at the idea of a mere amateur offering advice to a professional. Sometimes the onlooker sees points that the players miss. It may be so here!

May I offer a hint or two to my brother and sister amateurs who carry a hand camera and take an interest in portraiture and figure work generally? To many such the idea clings that something in the way of a studio is needed. Others say I am a town-dweller and have no garden or other opportunity of outdoor work, etc. Well, anyway, there is likely to be at least *one* door to your house. There you have a place where a fair trial can be made to start with. Example is better than precept sometimes. In this connection may I refer to half a dozen simple little experiments which I venture to use, solely with the notion of illustrating an idea?

Here in examples 1 to 6 we have the street door, portico, steps, etc., of a very ordinary London house, of which there are hundreds of thousands of similar things in every city and town. Now at the door many little things happen in the lives of young and old. We go out, brisk, fresh and spry in the morning. We return somewhat slowly and tired in the evening. A friend walks homewards. We say good day at the door, etc.

In this half dozen unrehearsed incidents we have glints from everyday life of this little girl; just ordinary things which happen nearly every day, and the result is the parents say, "That is Patty to the very life." One can almost hear her chattering, *e. g.*:

1. "I can hear the postman coming."
2. "Does it still rain?" (She is holding out her right hand to feel the raindrops, but this hand, unfortunately, is just out of sight.)
3. "The door has blown to. Shall I knock or ring?"
4. "I can just reach the knocker."
5. "Somebody is coming. I needn't ring."
6. "Goodbye."

It is a threadbare, and yet true, commonplace to say that most people change their thoughts and expressions when they change their clothes. Most people who visit a professional studio put on their best "go-to-meeting" or "party" clothes. A Sunday atmosphere clings. One ought to look and feel solemn. The occasion is felt to be serious. Consequently the expression is special and generally very undesirable. Then again our thoughts and expressions are influenced by our surroundings. The studio is strange, or, at any rate, not so familiar as home. So this element again is unfavorable to the desideratum—viz.: complete homely naturalness.

When one comes to think of it, the ordinary professional photographer's



studio is an out-of-date relic of the past. In the days of wet plates and slow, dry plates, quick exposures were not possible in ordinary rooms. True, they are not practical today in some rooms. But in most modern houses one generally can find a fairly well-lighted room, porch, balcony, etc., where hand camera exposures are practical.

To quote the details of the accompanying prints:

Time of year, end of September; 9 a. m.; cloudy, and rather dull; Imperial N. F. plates; H. & D. 200; $3\frac{1}{2} \times 2\frac{1}{2}$ inches; anastigmat, f. 6.5; exposure, $\frac{1}{8}$ sec. The camera (N. & G. Sybil) is not a reflex, so the focusing was done by guessing distances and a sliding scale. I find that $\frac{1}{8}$ sec. is about as long as I can hold a camera still enough for work of this kind. It will be seen (I hope) that the negatives were very fully exposed. The six plates were all developed together in one dish for 5-6 minutes in 4 ozs. of normal Diamidophenol which had previously been used a few minutes before for developing some bromide prints—another sign that these plates had been fully exposed.

These prints may also serve to convey the hint that with the same background, etc., one can get more than one study, or use more than one idea. Thus "at the door" might afford us quite a score of negatives which would be about different, both as regards pose and expression; and not one of them need be that one undesirable story, viz., "the camera-conscious expression."

In this half dozen examples this little girl, of course, knew she was being photographed, but in no case did she know the exact moment. Nor do I think that there is very much suggestion of "camera consciousness." This is, perhaps, largely due to a lively conversation being kept up between photographer and model on the question and answer principle, which did not leave long intervals for thinking about "being photographed."

One of our difficulties is with those grown-up people who made their acquaintance with photography or sitters half a century or so ago, when the slowness of plates called (or such a time exposure as to require the warning word, "quite still, please"). Naturally the old ideas are deepest rooted and so although we may explain that they need not worry about holding quite still, yet the notion is present—subconsciously perhaps—and tends to give a dentist's chair suggestion. With such sitters a little guile, is, I hope, pardonable. One dodge is to say, "Quite still, please; one—two—three, thank you." The two last words generally induce an expression of gratification at having done something creditably, with a general relaxing of both body and face muscles. That is the moment for *really* making the exposure.

A word of warning to the worker who is just beginning portraiture. Starting with the notion that naturalness is highly desirable it is easy to make the false deduction that *any* pose or expression that is natural will give a pleasing portrait. It is not so at all. A person may be slouching, naturally enough, in a chair, but anything of a slouchy nature is fatal to good portraiture. Again, while all our sitters' expressions are in a limited sense "natural," yet for the most part there are only a few of the many possible natural expressions which are individual and characteristic. To sneeze, cough and yawn are all "natural" enough. Yet who but a crank would seize such moments for portraiture?

Finally. Hand camera folk on portraiture bent, "beware" of overlooking the background! Look out for trouble with a patterny wall paper. It may not strike the *eye* as very marked; but how about the camera rendering of the colors? Those tall yellows on the delicate blue ground will likely be jumpy with an ordinary plate. On the landing, half way up the stairs, we often get delightful lighting effects, but beware of the stair background chopping the figure into sandwiches. The drawing-room mirror, with its reflection image, is tempting, but it is also very stale, and is seldom a success. It is so like hearing the same story a second time. The figure with lace curtain window background, has run through the photographic world like a veritable epidemic, but thanks be, there are welcome signs of subsidence of the malady.

LENTEN-TIME PHOTOGRAPHY

How the Season of Restriction Was Helped by the Camera

BY FELIX J. KOCH.

With Three Illustrations

CONVERSATION had drifted, as conversation will, in the best regulated company always, first to social events of the present; then to the forthcoming events which had cast their shadows decidedly before, and then, eventually to the Lenten season, which would put period to dances and balls, and, in a degree, even calling.

Some of them said they found the season one that did grow a trifle dull,—they didn't quite like to say stupid,—when the dapper little woman who somehow always seemed to do the right thing at the right moment interjected:

"Do you know, Hubby and I enjoy the Lenten evenings almost more than many of those of the rest of the year? It's usually cold and bad weather; sloppy streets, wet sidewalks, and so on,—the time of the year when an evening round the living-room lamp, with the odor of a good cigar in his mouth and a box of chocolates at hand for me, is decidedly pleasant.

"Then we get out the pictures we've taken through the summer and look them over. We bring out our diary and read in turn, one of us looking over the pictures while the other reads the section pertaining. Then, as I grow tired, I take a turn at these pictures while husband reads on, for a space.

"What a lot of delightful incidents they bring up! What recollections, peoples and places, odd little happenings! What merry laughs we do have.

"But, best of all, each Lenten season we take a Sunday afternoon off for a typical Lenten camera-hunting. In other words go in pursuit of fish.

"Of course when we lived in an inland town this was a bit more difficult. But then we called up the local grocer—discovered where he got his supply of local fish, and arranged to drive there. It was always interesting, taking the river road and keeping our eye out for pictures.

"Sometimes it was a fisherman dropping his seines. Another time it was a man stretching his nets on the bank to dry. Again it was some boys with nets, following the creek along in pursuit of minnows—'minnies' they called them—to be sold as bait. Other times we found where men dug large



CONSIDERING THE CATCH



MENDING THE NETS



SHIP TO SHORE

turtles or small turtles for the soup that resulted. But always the outing led us in the wake of pictures.

"When we moved to the seaboard it wasn't difficult at all, of course, to locate *bona fide* fisher settlements. Often we'd go down by the first train thence in the morning and return by the last at night. We'd take a snack of lunch along, in case of need, but most often there was a chance of a good fish dinner in some cottage, and there, then, we feasted, indeed.

"After that we went out and took pictures.

"Yes, it was for the pleasure, the fun, but even fun must be paid for, you know, and so we made a point of taking pictures in a way that they would eventually cover our expenses. We'd get fishermen, fish wives into the scenes—life, when in native costume, always helps, anyhow. Then we'd get their names and addresses, and by and by we'd send them a copy at a nickel profit to us above postage and cost. Of course they'd accept it—though we enclose stamps to return if not wanted and usually ordered more.

"Then we knew that there were concerns given over to the sketching of ads, who got out calendars, post-cards and so on, who could always use a good picture. When we saw something appealed to this use, we took it and often it paid the expense of the entire day's outing. But then, that was just the underlying side of the story, the framework, the 'paying the way,' so to speak.

"Beyond that was the charm of it. Studies in marines, studies in beaches with fisher cabins, studies in fishermen, studies in fish! Only a real true born photographer can know the pleasures it gave. All the joys of hunting, without the cruelty of killing and the messy work of skinning was ours. All the delights of the great outdoors, plus the tang of the sea.

"It was so appropriate, too—fisher life in the Lenten season. What's more, usually we'd be given a neat mess of fish in exchange for the pledge of some pictures—and with the fish on the table, the pictures close by, and the dozen and one incidents to look back to and recount, we've come to look forward, year upon year, to our Lenten camera outings!"

WE MUST PROTECT THE RECORD PHOTOGRAPHER

BY L. C. BISHOP.

IN no other work is the drawback of uncertainty so unavoidable as in photography. How many things can happen, through accident, to prevent the desired result of an expert worker. He can never say, definitely, that he has a good negative until the plate has been developed. The lucky side is all for the novice who might by accident capture all the elements that make a wonderful success. I know of nothing wherein the good luck of a mere novice is so effective in cheapening the higher trained man as it is in photography. The novice may get a valuable negative where a great professional has failed through some accident with more complicated apparatus or the fault of a careless assistant. A failure on the part of a man of reputation is *costly*—he might go on making ordinarily fine negatives by the hundreds for a long time, but if in one important undertaking he fails it will not be forgotten by anyone who knows of it.

The novice strikes real luck about as seldom as the professional makes a failure, but failures to the novice mean no serious matter—no one need know about it—he doesn't bother to show any but his lucky shots.

Here is an experience which took place in Brownsville, a small town just about large enough for one photographer who would do about all the photographic kinds of work.

A very important negative was to be made, one morning, and the call came unexpected. The photographer had made some flashlights the evening before and his view-holders he had just emptied into an original plate box, to be laid aside until he had time to develop them with others he intended making in the afternoon. The box was marked "exposed plates" and set up on the shelf so the writing could be seen at a glance, in white light. The photographer called his assistant to load the holders while he changed lenses and shutters on the outfit to be used that day. The assistant turned on the ruby light, shut the door and expected to find enough plates handy, but the case was empty, so he glanced around for a partly used box. He saw the end of a box, pulled it down, shook it and went right ahead with the loading. Everything was done in haste, because they were limited for time. The photographer felt his usual confidence as he left and went to meet his group—a large convention group outdoors. In getting ready and arranging this large group there was considerable work in getting that which was in front of the camera. Behind the camera and the photographer there was the usual large group *constantly growing*. A mass of boys, loafers, maids and children. One of the boys had a full sized Brownie. He was seeing the group in his finder and was moving closer. Click went the rotary shutter. It was the last exposure on his spool, and the drug clerk did the rest.

The photographer on his return to the studio instructed the assistant to develop the plates and hurry a proof which must be at the convention hall at a certain time, when some one there was to assist in getting orders and making collections. There was another call to make that morning, a reunion group in the country about fifteen miles by wagon road. The photographer had a livery man pick him up just as soon as he could get around with his tripod and smaller camera (8 x 10). The young assistant poured on the developer, after helping off, but the plate flashed up a painful evidence of something wrong—the next was like it. What could be done? He turned on the white light and read *exposed*. There was no way now to reach his boss, as he called him. (Poor devil, I'll bet it was warm where he was.) The flashlights had been made in after hours during the assistant's absence and through the rush and unexpected call this danger did not occur to the photographer. The young man decided to go ahead with developing the contents of the box but found the Pyro bottle low and none in stock. He went to the drug store, got the Pyro, and needing sympathy boldly told the clerk what had happened.

Trade was slow in the drug store that morning so the drug clerk began to develop a few rolls of film. He tried the boy's Brownie film in a tray of fresh developer. On five of the sections there was little more than sky, as they had been taken after school hours, a little late for snapshots, but the last one was exceptionally good, sharp in detail, too. It was the convention group and was easily recognized when the drug clerk examined it. Here was a "windfall" sure enough. The clerk called the local paper and sold a 11 x 14 enlargement for \$1.00. While he was at it he made a number of extra enlargements. When the boy came in the clerk said here boy is a chance to make easy money. "Run over to the convention hall and show these to Mr. *Elbert*. "Tell him the photographer spoiled his plates and that we will sell these at \$1.00 each. (I'll make them to you for 60c.) Have him call me up and if he is in doubt have him phone the photographer."

Everything went fine for the clerk and the boy. They sold over one hundred bromides. The local paper gave the boy a great write-up, half a page, followed by a good roast on the photographer *of their city*. The boy's parents were delighted and that evening the proud father entered the drug store with his son Billy. The father soon got visions of a great future for Billy and was looking over catalogues with the clerk. The clerk showed how he could get an 8 x 10 outfit for \$100.00, and if Billy would make the exposures they could work a nice little business together. The father added enough to Billy's first earnings to make the \$100.00.

Later in the same month \$100.00 more was added for extra lenses, lens hoods, filters, focal plain shutter and a flashlight machine. When school was out they also added a horse and buggy, which Billy's father traded a lot for. All that summer he neglected his business to help Billy along. Together they figured out the price of a plate and the cost of a print, not considering rent or any salaries. They decided on \$1.00 for the plate and one print and put a fine



THE PEASANT GIRL Chas. Lindenschmit



PORTRAIT OF A CHILD J. P. Buell



EIGHTY AND EIGHT Chas. Lindenschmit



THE PROFESSOR Chas. Lindenschmit

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

big "ad" in the newspaper. The regular photographer made no difference in his charges, which were \$3.50 for first print and plate, additional prints at the dozen rate, additional plates \$2.00 if less than six, more than six \$1.50 each.

All of Billy's family's relatives and family's friends were now involved in forcing a mushroom photographer. There were subscriptions to all the magazines and special letters to the editors; plates and flashlight powder of every kind tried out. Finally Billy's father said we must cut down expenses; why not make our own prints and do away with the clerk. Cash received was *small compared* to cash going out for material alone. Billy had shot many plates and his father guessed he was about professional, so they had the printer get out some fine stationery. On this they wrote the stock houses for prices.

What a great saving on plates alone it was, instead of \$2.40, at the drug store, as low as \$1.10; hypo per pair; why they almost gave it away. Gradually they fell for the advertisers, loading up and rebuilding and replumbing the finishing room. The work room was handy and contained a full stock of all chemicals and ready mixed developers and toners. Billy and his father often worked until wee hours in the morning, getting onto things. Time, money and health were thoughtlessly used like free water. Billy was pretty well worn out and now he was deciding that the view business didn't pay very well and it would be much easier to make portraits. Home portraiture was what his father said was the newest fad. So they went into the market again—a new camera with long bellows, the fastest anastigmat and the regular outfit a stock house man would advise. (Nothing lacking.) Books, books, platinum paper, hand-made mount material, everything advertised.

Billy found the lens hard to keep in focus—had it exchanged several times, but with no better success. Someone told him to stop down, then be under-timed—all in all he considered that his father was mistaken as to there being any money made in home portraiture. The father agreed. Billy thought seriously for a few days. He was so tired of continual failure. He had well stained finger nails and smelled quite like a chemist shop, but his brain was in a whirl. Billy's mother was worried over her son and that night they all decided it would be fine for them to run down to New York City. They did so. Billy and his father went to their stock house and saw the many, many cameras and things. The manager encouraged Billy after listening to his father's long story. He got a special man to spend a half day with them. Such a liberal, fine entertainer. He told Billy and his father to build a skylight onto their home and buy a regular portrait outfit and go at it right. Billy would pull through and would eventually make much use of the home portrait outfit, but needed things of greater certainty in the beginning.

They walked into the web, bought a portrait camera and stand, a big portrait lens and shutter, backgrounds and all of it. They left over \$500 more in New York and came home to build the skylight. When the skylight was in and the home studio furnished they were proudly ready to make sittings. Billy

didn't graduate from high school but he was sure he would make all of the class pictures. He tried four of the boys—his best friends—and got into no end of trouble with his new, cumbersome, unruly outfit. The results were not as good as he could have done with his old view box out by the side of a house (he said to himself). None of his friends ordered. The class went to the older photographer.

At the regular studio business had been quite dull owing to Billy's cut in prices. (No one profited except those who sold apparatus and material.) Billy was somewhat discouraged but felt sure he would do a big business when he mastered his new outfit. He didn't mind losing the class pictures. He considered students hard to please and cheap anyway. Billy continued to work hard, and his father stuck by him. They went at it harder than ever. By now they could develop and print quite well—retouching, too. Some expensive materials had been bought, so they set out to make some "Top Notch Stuff."

They copied the poses of actresses and applied them to the maid, the family dressmaker and the preacher's wife; another friend of the family, too, was a school teacher, grammar school, taught geography. They had her in a long kimona holding a crystal ball. Prints were made of these and a case for exhibition placed in the father's office. Prices \$4.00 to \$18.00 per dozen. The townspeople came to see the exhibit, but Bill's studio was quiet. The father spent hours talking for his son, besides doing the arguing with inquisitive amateurs. Billy's uncle from the West came and ordered two dozen at \$18.00; his father gave away about fifty of his own and paid his son the same rate. These orders were completed on the 3rd of July, so Billy decided to enjoy a day's recreation. Brownsville was celebrating—had a long program of races and contests.

On the morning of the Fourth about the first thing Billy saw was the drug clerk and another beginner. They were taking every contest with a brand new Graflex, with individual shots at the winner. That afternoon one of his classmates was out selling wet postals, 5c each. The drug store window was full of enlargements. The Graflex man was now making postal groups and portraits four for 25c. Had all he could do snapping away and picking out quarters. The drug store was mighty busy selling gum and sodas, but sold a number of Kodaks that day and every day after. Billy's father said never mind my boy they can't make as much as you did your first day and they'll never be able to make as fine work as you do now. Billy found a few more sitters among his closest friends and the poor old photographer was sick most of the summer.

About October 1st the local paper came out with an "ad," half page. A wonderful artist photographer was coming to make portraits of sitters in their homes. A representative would call in advance. (The name of the photographer was one of well-known reputation from a large city). This ended the studios of Billy and the regular photographer as well. However the advertised photographer did not appear personally, but a party operating under his name and financed by a wealthy business man of greedy disposition. They made

prospect sittings of everybody they could get to sit, except the poorest, making no charges for proofs, but when the order was given city prices were demanded in advance. The proofs were generally good but the finished work was bad and very disappointing—a poor imitation of the specimens shown.

Billy's father could now see the folly of all this. In his own business a competitor had gained many of his old clients together with the bitter taste he and his son got of their own medicine. Think of the waste of money after that one lucky shot. Five thousand dollars wouldn't pay Billy's father in return. The old photograjher had to give up and the town now has no good photographer at all. The drug store does quite a kodak business—has a number of young fellows working. The windows are not kept as clean as they used to be because the clerks are all fussing around at something else.

Billy's junk is worth about 25 per cent. of purchase price. He is not a graduate of anything, by no means a competent photographer, merely a victim of foolish hard work and waste. Is it not clear to see that our trained professional photographers are constantly being drawn down by those who are selling without regard to overhead expenses. Just because the novice is not making his living by photography, at his beginning, and does not realize the cost basis on which photographs must be figured by the established studio.

The big city photographer whose *name* was used in Brownsville had been crowded, too; crowded by similar impostors in the city and forced to sell to an idle rich man who held a mortgage. The rich man retained him for a while at a salary while he made haste to drain to the last drop all that could come from his once honorable reputation. Manufacturers are still profiting; the public is suffering, but in a mild way compared to the photographer who is cut.

The reader can now see how in price cutting and low standards there is always still another low scheme in cheap stuff to down the one before—no keeping what is got but fighting or dying out while the *price* is still made more attractive by some one who thinks he has it doped out.

The original Brownsville photographer put in seven years of honest apprenticeship before he came; spent \$2,000 on equipment and rebuilding his place for the purpose of making highly sensible and satisfactory photographs. He couldn't earn very much money until he got things going after the first year. If photographers were protected against such as Billy and his father what a saving it would have been to all of them.

Apprenticeship may be slow but it helps the boy who cannot pay his way through a school and is quicker and 100 per cent. better than trying to teach one's self. Billy should have finished high school, then gone to a technical school of photography, then a year or two of apprenticeship would have fitted him out for a successful career as a record photographer. He would open honorably and charge what his work was worth. Knowing what lenses and cameras are needed without having to buy over and over, a competent man to go into any ordinary studio and receive a fair salary, if he was at first in doubt

of a good location. Think of the waste his father would have saved; at least \$2,500.

Record photographers should be protected by law, then the tendency would constantly be towards better work. Art photographers need not overlook this necessity, believing themselves unaffected by the cheap. While art photography is almost entirely different there are a number who believe they can do both—that cannot be with any degree of increasing success). Record photography and art photography are widely different as to the training and experience needed. No man has time to learn both and make his living, too.

Record photography requires a good business education, many processes in the chemistry of photography and the exactness and fines principles of high-grade photo manufacturing. Because of the greater output the posing must be on a systematic basis and well learned and the mind so trained as to know when to make required exceptions. He should be taught to leave art photography entirely for the artist, but his taste must be cultivated so that the application of the mechanical and artificial will not offend the eye by being out of harmony.

Those who are brave enough to take up art photography as a means for livelihood should be first sure they have an artist's temperament. Take up a similar study course to that of the portrait painter, at the academy or under competent and regular tutoring—leave photography for the last years to save needless blundering, finally take up a year, at least, where photography is taught and considered a fine art. Nothing is gained by needless waste and bad habits are hard to break. It don't pay to blindly experiment when you can buy it for half the cost of wear and tear. We now have schools for both kinds of photographers and I am sure they are becoming more and more thorough. No one can afford to go along feeling and stealing his way. The artist imitator has too hard a path to travel—it's too hard on him. In our schools we have men who will sell you the information that holds you back, things that you cannot work out for 100 times the price.

We have a great army of people who take negatives and sell prints, working at odd hours and selling at low prices just for the experience and a little money to buy more material. Some day it is their hope to have a studio (when they have learned considerably more), but dear fellow you are killing your own chances even if you *are* only one. Save your money and go at it right—you'll save time, health and honor and by the time you do become a finished photographer you can well be proud to tell what you are because your services will be needed.

Since cheap competition some of our good old record photographers have been urged by advisors to go to higher roosts, drawing them into believing they can become art photographers if they attend conventions. Their work has been influenced and higher prices attached, but it is a shame to see how they have actually ruined their substantial way of working. It's hard enough to make an artist out of any kind of a photographer who learned without the art

training first. Just as hard as it is to make a professional musician out of one who has learned to play by ear. Pretenses to teach art in brief lectures will be fruitless because the principles are all mixed in the minds of those of a different original training. Good taste should be encouraged and helped through demonstrations, but to imitate artists in their work, no one can do it, except in poor taste, unless he is an artist and is trained after an artist's beginning.

If we can restore the record photographer to his rightful field he will be a happy man. Back again to P.O.P. and platinum. If we wish to advance art photography we must first protect the record photographer, then he will not be causing the public to become dissatisfied through his cheaper and incorrect imitations. We've got to raise the standard to a more substantial and dignified one. Photography has grown up and it is important that we photographers recognize it, if we deserve the highest respect of the public.

The American public can still be fooled but it can't be fooled long enough to make a fortune and keep it.

A SUMMARY ON LENSES

BY B. SPRINGSTED

With Two Illustrations by the Author

THERE are many lenses on the market for the various purposes of photographic work, ranging from the cheap single lens to the high-priced corrected anastigmat of numerous types—all good in their particular field, and all necessary to the production of best results in that particular field. It is not the purpose of this article to exploit any particular make of lens, but rather to discuss, in a general way, the merits of the various types of lenses and their applicability to certain lines of work as related to the amateur field of photography.

There is no more important part of one's camera equipment, whether he be beginner or advanced worker, than the lens. This fact is seldom realized, and perhaps less frequently appreciated, by the beginner, because he has not gone into the subject sufficiently to become acquainted with the merits of the various types of lenses. His first requirement, after becoming interested in photography, is a camera that will enable him to get results in pictures from the start—and something simple of operation. The matter of price is also a large factor in determining the equipment selected. He is very apt, therefore, to begin with the box type of camera, having a fixed-focus, single lens, because of the reasonable first cost and simplicity of operation. With this instrument, he is informed, he does not have to judge distances, as with one having a scale for focusing; neither is it necessary, as when using a higher grade lens, to see that all objects or things are in the same plane and therefore in sharp focus. The one essential thing is a good light, for this lens will not give satisfactory

results in instantaneous exposures except under the most favorable light conditions. Beyond this, to secure a picture, it is only necessary to point the camera at a given object or thing and release the shutter. Everything in front of the camera, whether near or far, is in the same degree of focus at all times. There is no individual plane of focus. Please note that the statement relative to objects at any distance being in focus at all times is qualified by "the same degree," for it is my experience that one seldom finds this fixed-focus single lens capable of giving sharp definition, such as can be secured with other lenses, at any distance. Here is simplicity in the extreme. So the beginner, armed with this kind of equipment, starts on his photographic career.

From this, as he progresses in the work and becomes familiar with the faults and shortcomings of the universal focus single lens, and desires something better in the way of lens equipment, the beginner will probably graduate into the folding hand-camera type of machine, equipped with a rapid rectilinear lens. Up to this time the beginner has perhaps given very little thought or consideration to the matter of his lens equipment. He has not as yet been impressed with the necessity of having a lens working faster than about one-twenty-fifth second, or one that will enable him to get pictures under unfavorable conditions; neither has he specialized in any particular branch of the work sufficiently to learn the demand for a lens equipment best adapted to that field to the exclusion of all others. Rather, he has been content with a "general purpose" lens of reasonable cost—a lens that would give him fair results under average or favorable conditions, and particularly one the manipulation of which was simple.

The folding hand-camera equipped with a rapid rectilinear lens (usually f.8 or U.S. 4.) is the next step forward in his course of evolution. This equipment enables the operator to secure a speed of one-fiftieth second under ordinary conditions, and under extremely favorable conditions of light, one-one-hundredth second. With this equipment one also has the focusing scale, and may have, with the automatic shutter, the convenience in making automatic properly-timed exposures of 1, 1/2, 1/5, 1/25, 1/50 and 1/100 second. The rapid rectilinear lens, while of necessity not being corrected for optical defects, has a field limited in proportion as these defects exist; although it offers great possibilities for the operator who will study its limitations and keep within them. The rectilinear lens, under certain conditions, is capable of producing results that will compare favorably with those of the higher grade anastigmat.

The average camera worker, after having more or less experience with the rectilinear lens equipment, desires something possessing greater possibilities, and consequently turns to the anastigmat in the same way that he took up the rapid rectilinear after using the fixed-focus single lens. He now finds his horizon extended. In the rapid rectilinear field there is practically only one type of lens, and this having, to a large extent, uniform speed and quality. In the anastigmat field there are several types of lenses, possessing varying speeds and qualities for the various classes of work—such, for instance, as



No. 1. Print from negative made with rapid rectilinear lens (F-8). Observe depth of plane of sharp focus.



No. 2. Print from negative made with Zeiss anastigmat (F-6.3) working at full aperture. Observe also depth of plane of sharp focus which is much shallower than shown in No. 1. Both negatives made at approximately same distance.

portraiture, diffused focus, landscape, speed work, architectural work, wide angle work, etc. For each class of work we find a lens best adapted to that particular field; so it is necessary, unless one is going to specialize to a degree that will justify the use of a lens for each of these classes of work, to strike a "happy medium" in a lens that will come nearest giving the desired results under average conditions and average work. The camera worker, outside of newspaper work, while he may occasionally find use for a lens working reasonably fast, will seldom find it necessary to use an ultra-speed lens; likewise he will find little demand for a lens possessing special qualifications for architectural work, landscape work, wide angle work, etc. Therefore, the lens coming nearest to meeting his requirements for all around purposes is an anastigmat working at a moderate speed and of medium focal length.

It is always well to remember that one should have shutter equipment working in co-operation with his lens, i. e., the shutter should work at the maximum exposure possible with the lens. This will enable one to get the full reserve power out of his lens when occasion requires.

The anastigmat lens differs from the rectilinear in that it is a corrected lens, that is, corrected as to optical errors such as astigmatism, spherical aberration, curvature of field, distortion, etc. These defects are always present, more or less, in an uncorrected lens of the rapid rectilinear type. It frequently

happens that the defects are not noticeable or do not stand out with such prominence as to attract attention to the inexperienced eye. But the defects are present, nevertheless, and are liable to cause trouble at a time when least expected and prove a source of annoyance. Again, in a lens of the rapid rectilinear type, if the covering power of the lens is not ample for the surface of the plate on which used, the extreme corners are liable to lack definition or sharpness.

Flatness of field: The anastigmat, being a corrected lens, has an absolutely flat field, working at full aperture, over the entire surface of the plate, whereas the rectilinear lens, only partially corrected, has a flat field only in the center.

Probably the most common fault found in uncorrected lenses is astigmatism. Astigmatism means the inability of a lens to reproduce both horizontal and vertical lines distinctly when such lines occur near the margin of the plate, or are formed by the light rays passing through the lens obliquely. This defect therefore necessarily lessens the usefulness of an objective in work where straight lines predominate, such as architecture, owing to the lack of definition in the marginal portions. The only remedy for this lies in stopping the lens down, but this of course retards its working power.

It is not possible to deal at length with the merits of all anastigmat lenses in the limits of an article of this kind. Hence we will confine ourselves to the two types best suited to the needs of the average camera worker, viz.: the *f* 6.3 and the *f* 4.5. The *f* 6.3 for all around work is the better lens of the two because of its covering power and greater depth of field. However, where extreme speed is desired, the *f* 4.5 should be selected. An eight-cell convertible anastigmat working at *f* 6.3 is the favorite of a professional photographic friend of mine, who does considerable speed work, as against the entire field of anastigmat lenses. He favors this lens largely on account of its latitude in regard to depth of field, while at the same time he avers its speed is ample.

In line with fundamental optical principles, the larger the aperture and speedier the lens, owing to the volume of light admitted to the sensitized surface of the plate, the more the need of precision in focusing on a given object. It is not possible to secure extreme speed and depth of field at the same time. If depth of field is desired, it can be secured only at the sacrifice of speed, and, conversely, if speed is the quality sought, one cannot expect to have everything recorded by the lens sharp and distinct.

The larger the aperture of the lens of course the shorter the depth of focus, e. g., an *f* 4.5, five-inch equivalent focus, at fifteen feet distance, will have a depth of focus say of 20 inches forward and slightly more backward, while an *f* 6.3 of the same equivalent focus will have a depth of focus of 26 inches forward and 38 inches backward; an *f* 8 will have 32 inches forward and 51 inches backward, at the same distance, etc.

The shorter the focal length of a lens (the distance between the diaphragm

and ground-glass when lens is focused on an object), the greater the so-called depth of focus or depth of field.

"Depth of focus" must of necessity be a relative term, for there can be no such thing as two objects in different planes being absolutely in focus. However, sufficient sharpness may be secured over certain distances, front and rear, so it may be said the image is practically in focus.

Lenses, even within the same type and make, will often times be found to possess varying degrees of perfection in one way or another, the same as other things. I have a Bausch & Lomb rapid rectilinear lens, supposed to work at about $f/8$, that I think is quite the equal in speed and other respects to the average anastigmat working at $f/6.3$ or under and of similar covering power. In fact I have tried this lens out several times, under identical conditions, with $f/6.3$ anastigmats and have secured equal results in some cases and better results in others. This lens was selected by me after giving a number of similar lenses critical try-outs to determine superiority.

Just a brief paragraph here relative to the practical operation of the anastigmat as compared with the rectilinear lens. I remember very well some cautionary advice once given me, before I had gained experience in the use of the anastigmat, by a friend who was trying to dispose of a second-hand camera to me. After enlarging upon what he considered the "mysteries" of the anastigmat, he concluded with an argument of the differences between the two types of lenses—stated that there was no similarity at all and that I would meet failure in the early use of the anastigmat by relying too much on my experience with the rectilinear. He was either insincere or ignorant of his subject. I learned later on what little basis of fact his argument was founded. Any one who can get results with a rectilinear can do likewise with an anastigmat. The two things to be borne in mind are: (1) the anastigmat is a faster working objective; and (2) it requires more care in focusing as to distance, because of its shorter "depth of field." With this in mind, the same judgment that will render good results with a rectilinear will do likewise with the anastigmat.

In conclusion, it is proper to point out that one should study the possibilities as well as the shortcomings of his lens equipment, whatever type of lens it be. Only in this way can best results be secured; and unless one is competent in its use, best results cannot be expected from any objective. All lenses have their limitations, and no lens is capable of doing the impossible. The competent use of an uncorrected lens will prove more satisfactory than the incompetent use of a corrected lens. And do not lose sight of the fact that it is not all either in the camera or the lens employed: the principal thing, after all is said, is the "man behind." One operator will take a crude box affair with a pin-hole for an eye, and make a prize-winning picture; while another will go forth with the most modern of camera equipment, including a highly-corrected anastigmat lens, and yet utterly fail to secure a negative that will render a satisfactory print. So, in the last analysis, it is our per-

sonality or inner selves that determines the degree of success we reach in this as in every other line of endeavor. This personality of ours may be difficult of a proper explanation in cold type, but it is not so in a comparison of results.

PHOTOGRAPHING SMALL OBJECTS WITH A COMMON CAMERA

BY C. L. CHAMBERLIN

OCCASIONALLY the amateur finds it desirable to photograph a small object of some kind, perhaps to copy another photo or to take some similar sort of exposure with a camera intended for outdoor scenes. Whether it be a camera with fixed focus or adjustable, the amateur finds himself afloat on a strange sea and with little aid available. Most books tell him that he must get a long-extension camera if he wishes to do such work instead of giving him instructions for doing something with the camera he has.

Any one handy with tools and accustomed to doing fine adjusting on small machines will be able to make by hand an extension for the bellows already on his camera. The problem is simply to carry out the front lens farther from the rear and yet protect it from cross lights by enclosing it in a light-proof bellows. Cardboard and some very thin leather or tough paper is all the material that will be needed except some good glue or paste or some other "stick-'em" liquid that will work on leather, paper or wood. The size and shape of the camera will determine the bellows but the idea is simply to extend the former bellows or to make a new one longer than the old so as to carry out the front lens.

Sometimes an additional lens may be attached to add to the strength of the present one. The portrait attachments sold by most dealers at fifty to seventy-five cents enables one to take portraits making the object larger and at close range. With one attached an adjustable lens camera may be focused at two feet eight inches, while one with fixed focus can be made to give a clear image at three feet six inches. While this may not give a perfect view of a coin, postage stamp or similar object, it greatly helps in extending the work of a common camera. A reading glass fastened over the regular lens gives a larger image after being properly focused. Best results are obtained in getting clear definition at short range on small objects by using a small stop and making a longer exposure. Of course these are only temporary expedients, as only a well made, long-focus camera will show really high-class work at short range on small objects. But these suggestions will help out on an occasional view.



FOR the amateur there is, perhaps, no more fascinating branch of photography for the winter months than enlarging; by this means little insignificant snapshots can attain the dignity of a picture worthy of a place on the walls of the most esthetic person's home. Added to the artistic value of making one's own enlargements, there is always the personal element in such a picture that will recall sentimental memories of some holiday in the country or some foreign land; of some special friend or group of friends. With the modern enlarging apparatus now available at such little cost, no amateur photographer should be contented with the small contact prints that average negatives yield. Books specially written on the subject, and the many articles regularly appearing in the photographic press, make it a simple matter for the merest tyro to produce good enlargements.

With the approach of winter, photography to some amateurs loses its strong appeal; to them the exposing, developing, and printing of the plate is the beginning and ending of photography.

The fact is that the more creative and individual work is that which follows after the ordinary process is overlooked.



PHOTOGRAPHIC illustrations are being used more than ever for educational purposes, and the instructors or students themselves should be encouraged in every way to take such photographs. The actual fact of photographing any object centers the attention on that object more completely than inspecting it, and the mind remains fixed on the object throughout the subsequent operations. When finished, of course, any number of prints can be made. Before photography can be employed for educational purposes, a certain amount of time must be devoted to the study of the subject. Anyone who thinks that the purchase of a camera involves nothing more than to press a button, and get somebody else to do the rest, will be seriously disappointed. Such a method may answer for the holiday or casual snapshotter, but when results are to be used for purposes of instruction and study, the science and art of photography must be correctly understood.



IT is the close attention given to the seemingly small and unimportant details about photography, whether it be exposure, development or printing, that accounts for the pronounced success and reputation some of the photographic experts of the present and bygone days enjoy. It is also true that certain amateurs excel in a particular branch of the work, who have worked out and studied that particular branch to its fullest extent, and the result of their work is as easily distinguishable for its technique as a painting or sculpture by a well-known painter or sculptor. For instance, some time ago in looking over an exhibition of photographs, we remarked upon the general characteristics of several of the pictures and upon further inquiry found they were by the same contributor. The person in question had specialized in the composition of his subjects, and though they were in both figure and landscape the same careful attention was shown in the arrangement and execution of the subject.



OF course it is readily understood that some people are more artistically inclined and see a charming landscape which would be nothing other than the countryside to others of a less artistic point of view. But even the absence of an inborn knowledge of the beautiful in composition, whether in figure or landscape has been overcome by many by using a little judgment in the trimming of prints, by cutting off the non-essentials which in many cases detract from a large number of really good pictures.



THE MOUNTAIN MILL

Frank von Gillmoe



Discoveries

[The readers of THE PHOTOGRAPHIC TIMES are invited to contribute to this Department reports of their Discoveries for which we will allow One Year's Subscription, on publication of the contribution.—THE EDITORS.]

PHOTOGRAPH AND DESCRIPTION OF A HOME-MADE COPYING STAND.

The dimensions: Upright board, 4 feet, base board 2 feet, both are 8 inches wide. The block to which the camera is attached by means of a tripod screw is 3 inches thick by 5 inches square. The object of this board is to center the lens and the thickness would vary according to the size of the bottom shelf which carries the pictures or other object to be photographed. This bottom shelf is 17 inches by 13 inches and the stand is high enough to allow an object occupying the whole of this space to be photographed with ease on a 5 x 7 plate with a lens of $8\frac{1}{4}$ inches focus.

The picture is simply laid in position on the shelf, obliquely or straight as may be desired. The camera or the shelf is then moved up or down till the picture appears of the desired size, after which the rack and pinion on the camera is used to procure a sharp image.

The advantages I claim for this apparatus are: Ease and quickness of manipulation

and focusing, picture can be laid in any position; can also be used to photograph small objects that would be almost impossible to photograph with the ordinary apparatus; it occupies very little space, can be taken apart when not in use, and put away; whole apparatus can be moved around as easily as a chair; gives a much better light; can be easily moved to the light.



By placing a glass in the lower shelf instead of a board it can be used as a retouching desk, as one of the illustrations shows, also as a stand for natural size photography of grain, flowers, minerals, etc., allowing the background, which is placed beneath the glass, to be changed as often as desired during exposure, securing a neutral tint or any other tint desired. You are no doubt familiar with the process. In the same manner it could probably be used in connection with the microscope.

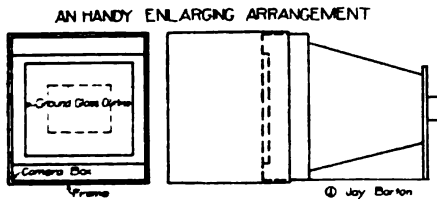
ANDREW C. GAULT.

A HANDY ENLARGING ARRANGEMENT.

How often the amateur who does not own an enlarging apparatus wishes a few large pictures from a favorite negative. The simple apparatus here described should enable him to do his work; and it might well be remembered by the advanced worker when he is away from home.

The first thing is to obtain two cleaned glass plates that will slip into the position ordinarily occupied by the plate holder or the film pack. They should project about one-fourth of an inch to facilitate removal. Or if the camera is for roll films remove the back and fit the glass plates inside the camera box. This is the negative carrier, and the negative, whether glass or film, is placed between these two plates to insert into the "enlarging lantern."

Now make a cardboard box, open at both ends, to fit over the back of the camera. This should be of white board so that it will reflect as much light as possible. It may be tapered if it is so desired, and then it will reflect more light—the larger end



should be over the camera. The length of the box may be between ten inches and twenty inches.

Now to operate the enlarger:

For an easel, the wall serves as well as anything. Pin up a sheet of white paper, insert a negative, place the cardboard box, and set the entire apparatus on a table in front of the paper. Attach a forty watt or sixty watt tungsten lamp to an extension cord. Holding the base of the lamp, place it in the box and move it to within an inch or two of the ground glass. A white spot of light will be seen on the paper, its size depending upon the distance of the camera from the wall. Racking the front-board in or out secures the focus. Now by moving the lamp around as the dotted line in the

end view indicates, the entire negative is illuminated. Practice focusing at different enlargements, and then a sheet of bromide paper may replace the white card, and a practice exposure made. If any light leaks out, cover with the focusing cloth, or other material.

Exposure is necessarily longer than in a lantern; but for ordinary negatives and ordinary enlargements, few exposures exceed one minute.

After the exposure, the treatment is as usual.

Is such an apparatus satisfactory? Well, a negative made with a box camera was enlarged *eight* diameters and the enlargement was envied by both amateurs and professionals.

JAY BARTON.

☆☆☆

POINTED PHOTOGRAPHIC PARAGRAPHS.

For the best negatives and prints expose correctly and develop quickly. It is cheaper in the long run to use small quantities of developer and renew it frequently, than to try to stretch 20 ounces of developer over 2 or 3 dozen prints, staining and ruining paper, time and temper. Too much bromide in the developer will give greenish tones, too little bromide will make foggy looking whites.

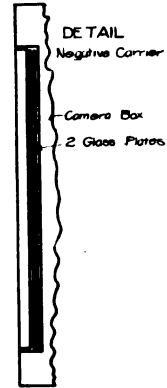
The simpler the subject the greater the amateur's success.

An excellent flashlight fuse can be made from old films cut into strips.

Two drops of ammonia in one ounce of water will remove black lines and markings on prints. Allow prints to dry, then rub marks with above mixture.

Give each step in the making of a picture careful attention and the resultant picture will demand careful attention from others.

I have read several directions lately for breaking bottles evenly. I herewith render my way, though I wouldn't advise beginning with anything valuable, as I broke several very *unevenly* before I acquired the "knack."



Tie an inch wide piece of wet flannel just above and just below the place where you require it broken. Now wrap a string, saturated with kerosene oil, several times around the bottle between the flannel, light the string and, as soon as it burns away, tap sharply with a file or some instrument no wider than the burned string. If struck with a hammer, or any instrument wider than the hot strip of glass, it will break unevenly. Try on several worthless bottles first. I broke three one-quart whiskey bottles, about an inch below the neck, using the necks for funnels and the other part of the bottles to mix chemicals in.

C. B. PARKS.

☆☆☆

A SIMPLE TRIMMING BOARD.

Being far removed from a supply dealer I worked out a trimming board like the enclosed reproduction.



An oak board 12" by 20" with a strip on end and side to hold the paper for guiding. Two rows of holes at each end about an inch apart. A strip of ground-edge plate-glass 2" wide by 18" long serves as a cutting guide. The guide is held in place with a nail at each end. A sharp pointed fruit or pocketknife will answer as a cutter. Pressure on the plate-glass strip will keep print from moving. Have used this arrangement for some time and find it very handy.

FRED E. WOOD.

☆☆☆

ON MEASURING HYPO.

Many amateur photographers think that weighing out hypo crystals on the ordinary photographic balance of capacity 4 oz. a very disagreeable process, both in length of time, and in damage to the scale-pan of the

balance from the deliquescent crystals. The solution of the problem is to measure out the crystals by bulk in a graduate, 1 oz. fluid equals 1 oz. Troy.

P. S. HELMICK.

☆☆☆

In mixing solutions, I have found that the use of a large, thick glass tube is preferable to a stirring rod. The tube is placed in a graduate with the water and substance to be dissolved, and blown into. The bubbling rapidly causes solution. If a cake is formed at the bottom of the graduate, it can be broken by the tube, as it should be thick enough for this purpose.

There is probably a small amount of free oxygen in the exhalation, but I have not found that it affects the solutions in any way.

RALPH NEWMAN.

☆☆☆

HOME-MADE PLATE TANK.

A plate tank is very easy to make. I will describe one I made for 4 x 5 plates, but any size can be made on the same principle. Two sides are formed by pieces of wood 1½" x 5½" x ½", to which are nailed pieces of corrugated tin or zinc serving as grooves for the plates. This is wide enough for four grooves, which will hold eight plates when placed back to back. The other two side pieces are cut so as to be about ⅛" larger than the plate, allowing for extending over the other pieces. If you are not able to procure the zinc cut grooves in the two pieces of wood, cut grooved pieces first, fit a plate between the two and you have the size for the other two pieces. Cut the bottom the required size and paint all the edges that are to be put together with black asphaltum varnish. If the joining is done carefully the box will not leak. Place a small strip in the bottom to keep plates from resting on the bottom. Give the inside of box two or three coats of the varnish. Line the top edge of the box and the lid with soft rubber and clamp the two together when in use and it will not leak when the tank is unused.

J. J. HARMAN.



[Officials and other members of Camera Clubs are cordially invited to contribute to this department items of interest concerning their clubs.—THE EDITORS.]

ILLINOIS CAMERA CLUB, CHICAGO, ILL.

An organization of amateur workers for the mutual advantage derived from association—and for the advancement of art in amateur photography.

In its endeavor to furnish every possible incentive to its members and also to provide for them every facility for work, the Illinois Camera Club has affiliated itself with the Sportsmen's Club of America, in which members of the camera club are required to maintain membership. They therefore enjoy all privileges of a high grade athletic club as well as a most complete equipment for photographic work, and it is expected that when the installation which is now in progress is finished it will leave nothing to be desired by the most advanced worker. The work on our portrait studio which has about reached completion, provides for the club an operating room which is second to none in the city, and which will be a continued source of great satisfaction to those of the members who are interested in studio work.

The work on the rooms for developing, printing, enlarging and lantern slide work will be rushed to completion and the work-rooms for mounting, retouching, etc., will soon be in order.

The advantages and facilities enjoyed by members of the Illinois Camera Club are of inestimable value to the amateur photographic worker of Chicago and vicinity. Lack of the necessary space or of the expensive equipment required make it impossible for the average amateur to pursue his hobby beyond the elementary stage. And for those who are so fortunate as to be provided with the necessary equipment, the association with a large number of co-workers is of untold value.

On Wednesday evening of each week the club gives an entertainment, lecture or demonstration on some subject of interest to the members. These are given in the Auditorium of the Sportsmen's Club of America, and anyone interested is cordially invited to attend these meetings.

It is the intention to give during the coming year, one each month, a series of lectures on photographic operations and processes. These will follow in logical order and will constitute a liberal course in photographic instructions.

There will also be illustrated travelogues, lantern slide exhibitions and other entertainments of interest to all and particularly so to the large number of amateur photographers of Chicago.

The program for January was as follows:

January 6—Business meeting.

January 13—Illustrated travelogue—Glacier National Park and the Canadian North West. A large number of beautiful slides prepared by our Mr. W. A. Rowley from his own negatives.

January 20—Lecture by Mr. F. M. Tuckerman—Exposure. This subject was ably handled by Mr. Tuckerman and the talk was very instructive.

January 27—Annual lantern slide exhibition, of work by members of the club.

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ORANGE (N. J.) CAMERA CLUB.

It is doubtful if any other photographer can produce a finer collection of "oil" prints than were shown publicly December 18th at the Orange Camera Club rooms by Everett Kilburn Taylor of South Orange. Mr. Taylor, besides his artistic equipment, has a knowledge of the chemistry and physi-

cal qualities of the pigments entering into the work that enables him to produce beautiful results, and to this are added his experience in handling lenses and judging lights, together with opportunities of travel not granted the average camera enthusiast.

In the collection were prints familiar to the public through frequent reproduction and exhibition. These include what some regard as his masterpiece, "The Castle of Chillon on Lake Geneva." This has been cited by many experts as being "almost faultless."

Other pictures were his visions of former splendor made in Pompeii, one with Vesuvius seen in eruption through an ancient archway. Still another, made in that vicinity, is just a detail of an old Tuscan farmhouse. Of a different character is his Pompeiian Villa, a decoration.

In Holland, Mr. Taylor used his lense again with good effect in catching a typical windmill scene at Haarlam.

From Europe the artist takes his visitors back to the Maine woods, where he managed to catch some splendid views. One of these in dark sienna he called "September." Some snow scenes are excellent as well as seasonal.

While the prints all received their merited attention, none delighted more than the child portraits. Of these, "Manny Boy," a head, seemed to appeal to the casual observer as well as to the trained eye.

☆ ☆ ☆

Now that the holiday season is over and we've all made more money than we expected to, it is time to turn our thoughts to the help of others. That is what Papa Cramer always did as soon as he was through with a hard job—as soon as he had made a bit more money than usual, his heart expanded and he hunted around for someone that he could make happy. How much more fortunate are we, who have no necessity for hunting around!

The Cramer Memorial Committee, headed by such men as Phillips, Core, Harris, Noble, Clark, Strauss, Stein, Steckel, Walinger, Knaffl, Hammer, Topliff, Rinehart and MacDonald—men who, every one of them hard workers, are spending their time and giving their money to make the Memorial not alone a fitting tribute to the dear old man, but to show the world that photographers are first of all men who are sympathetic, strong and generous, as of course you are.

The signing of the pledge for an unknown sum is in a characteristically American spirit. The sporting instinct in the real American is so strong that the idea was taken up immediately and enthusiastically by dozens of men whom one would have been inclined to set down as conservative. If your business on May 20th amounts to only six dollars, you have only to be glad that you are able to contribute six dollars, and if it amounts to sixty or six hundred, there is all the more reason for being thankful that you have been given the opportunity of being really generous.

As the money will be sent to "Pop" Core, he being the Treasurer, and as it has been agreed that the amounts sent in will not be published, the only embarrassing feature has been eliminated. So fill in the adjoining pledge and send it to the Treasurer to-day.

A PLEDGE

E. B. Core, Sec.-Treas. Gustav Cramer
Memorial Fund,
76 Landscape Ave., Yonkers, N. Y.

I agree to send at the close of business on May 20th, 1915, a check equal to the gross amount of the orders received in my establishment during that day, as my contribution to the Gustav Cramer Memorial Fund.

Date.....

Signed.....



THE PHOTOGRAPHIC JOURNAL OF AMERICA.

With the first issue (January Number) of the Fifty-second Volume, *Wilson's Photographic Magazine*, is issued under the above title. For thirty years, since the removal of the publication office from Philadelphia, the magazine had been identified with the founder and publisher, previous to that time the magazine had been called the *Philadelphia Photographer*. In changing the name in 1885 from the *Philadelphia Photographer* to *Wilson's Photographic Magazine*, Mr. Wilson's idea was to create a magazine, not for a locality, as the name might imply, but for the whole photographic public, irrespective of place. Edward L. Wilson was a man thoroughly versed in all matters photographic and was always present at photographic gatherings and conventions. Since Mr. Wilson's death in 1903, the magazine has been carried on by very able editors, until the present day when it is conducted by Mr. Thomas Coke Watkins. It has been improved in several important particulars, not the least of which is the new title which will tend to place it in the front rank of photographic periodicals the world over.

The magazine has never been more aware of the needs and requirements of the photographer than at the present time. On this occasion we wish to assure our esteemed colleague of our best wishes and regards in his endeavors to place before the photographers, both professional and advanced amateur, the very latest in process, appliances and methods. We shall miss *Wilson's*, but we know that our regrets will be more than compensated for by what *The Photographic Journal of America* will be. We wish it all prosperity and success. It certainly deserves both for its enterprise.

UNIT PHOTOGRAPHY, by F. M. Steadman. D. Van Nostrand Co., New York, publishers. Price, \$2.00 net.

To-day is the day of reasoning and efficiency, whether it be in business or in recreation. The majority of photographic endeavor is of course of the latter, but in that the results are now generally carefully scrutinized.

Mr. Steadman in this book endeavors to establish a scientific foundation for the practice of photography. The haphazard method of making exposures under various light conditions without consideration of the actinic property of the light is condoned. Based on measurable elements the process of photography should be considered, and in order that the mind may act with certainty all quantities should be measured and expressed in simple unit terms. This will make possible a more uniform product for the artisan as well as place in the hands of the artistically inclined that freedom of technique which can only be obtained through a perfect knowledge of his tools by much practice.

This idea is covered to a certain extent by different manufacturers of their products, but Mr. Steadman has covered the whole process from exposure to finished print, showing the comparative values according to a unitized system.

On the basis of a new unit, that of the dimension of solid angle or convergence, the author has established a practical unit of Actinic intensity for the measurement of the intrinsic actinic intensity of surfaces; light sources and expanses and by these means has developed a scientific method of photographic practice in which exposure is deduced from unit measurements by the simplest, easily comprehended, analytical reasoning.

THE PHOTOGRAPHIC TIMES

"The Eye" is the subject of the third article in the series on "The Features of the Human Face," by Sidney Allan, appearing in the January number of *Portrait*. The cover illustration is Mrs. Helen I. Francis of Topea, Kans., a well-known photographer of the middle west.

☆ ☆ ☆

PHOTOGRAMS OF THE YEAR.

The publication of "Photograms of the Year" is an event looked forward to by all interested in pictorial photography throughout the world. The present is the twentieth consecutive year in which the Annual has been issued, and in its new and greatly enlarged form it is a very handsome book indeed.

Upwards of a hundred full-page reproductions of the finest examples of pictorial art with the camera appear between its covers. These are presented by the highest form of printing and in all cases do full justice to the originals. The pictures are in most instances well worth framing, and will prove of the greatest interest, illustrating as they do the progress of pictorial photography and the work that is being done with the camera in all parts of the world.

British contributions, of course, predominate, but America, Canada, France, Australia, Japan, Spain, Russia, Scandinavia, Belgium, Holland, Italy, and other countries are represented. As regards the literary contributions, the Editor, Mr. F. J. Mortimer, F.R.P.S. (Editor of *The Amateur Photographer*) deals with the year's work, and has some comments to make on the future development of pictorial photography. A critical causerie on pictures reproduced is contributed by Mr. F. C. Tilney, and a thoughtful article on "Expression in Photography" comes from the pen of Mr. Antony Guest. Pictorial photography in Canada, Australia, the United States, Scandinavia, and Spain is dealt with in separate articles by well-known writers in their respective countries. The entire volume is thus of live interest for all concerned in the possibilities and progress of picture-making by the aid of the camera.

☆ ☆ ☆

We have received a very artistic calendar from our old friend and contributor, Mr. Floyd Vail, which has been decorated with an appropriate winter landscape scene of his own making.



WASHINGTON ARCH, New York. Floyd Vail



[Manufacturers and dealers in photographic goods and supplies are urged to send us descriptive circulars of their new products for presentation in this department.—THE EDITORS.]

Without a doubt the Autographic Kodak is the greatest advance in photography in years. The opportunity to mark the "Who?" "Where?" "When?" and "How?" on each picture has been a great boon to the amateur and increases the value of each picture with each succeeding year. The appreciation for these cameras is best shown by the large number sold during the holiday season. The Eastman Kodak Co. have now introduced the Autographic in sizes No. 1 and 1A of the Kodak Juniors.

★ ★ ★

The Bausch & Lomb Optical Co. have issued a revised edition of the circular H-d on the Ic Tessar lenses for motion picture cameras. This circular is of particular interest to those who have tried to make large pictures of distant objects. The new rack and pinion mount which is illustrated takes lenses from 2" focus up to 7¼", giving various telephoto effects. A postal request directed to the Bausch & Lomb Optical Company, 626 St. Paul Street, Rochester, N. Y., will bring you a copy.

★ ★ ★

Without the Kodak Film Tank what a lot of trouble you would have. The convenience of the tank itself, with the added help of daylight developing, should be sufficient reason why you should have one. If you haven't one there is no time like the present. For sale by all dealers.

★ ★ ★

Learn to be a motion-picture camera operator and earn a liberal salary. Commercial, war, newspaper and government photographers earn big money. Or start a business of your own with little capital. One to three months' instruction by mail or at the school. Instruction is thorough and

practical. Easy terms. Amateur course, \$25. Get full particulars from the New York Institute of Photography, 1269 Broadway, New York City.

★ ★ ★

You can secure at your dealer (free) a little book entitled "By Flashlight." It will pay you to read this book, as it gives a lot of useful information regarding this class of picture taking. It also explains the use of Eastman Flash sheets, the safest of all flashes for night exposures.

★ ★ ★

We call again the attention of our readers to the opportunity offered to secure a subscription to this magazine by the New York Camera Exchange, 111½ Fulton St., New York City. Mr. J. H. Andrews, the proprietor, has issued a Bargain List (No. 19) and to each purchaser of any of the items in this list he is giving without additional charge a subscription to a photographic magazine. We have been favored in the selection by some of his customers, but we feel that others of our readers would do well to look into the bargains he has to offer and secure not only a subscription to our magazine without cost, but some extra photographic equipment of which he may be in need, at considerable saving.

We have known Mr. Andrews for some years and can vouch for his fair and business-like dealings. As a further testimonial, we might add that one of the subscribers recently wrote us advising us that he had purchased some photographic equipment from Mr. Andrews, and that he was perfectly satisfied in every respect, the goods he received being all Mr. Andrews represented them to be, and bought at a price that was really a bargain.

THE PHOTOGRAPHIC TIMES

THE ANSCO LOVELIEST WOMEN CONTEST.

It is hoped that the judges for this most important contest will be able to get together sometime before February 1st. Immense quantities of photographs from all parts of the country have been received and are being sorted so as to facilitate the work of the judges.

The Ansco Company is now erecting a very beautiful booth in the Liberal Arts Building at the Panama-Pacific Exposition, where the prize winning pictures will be shown.

★ ★ ★

The C. P. Goerz American Optical Co.'s Manufoc Tenax Camera is a marvel of Hand Camera Efficiency. It is a small folding hand camera made of aluminum, finished in black leather, with nickel trimmings, and is one of the strongest and most compact cameras in existence. It has a double extension base for focusing objects within a few feet of the camera. The front is adjustable both vertically and horizontally.

The Manufoc Tenax is made in four sizes, $3\frac{1}{4} \times 4\frac{1}{4}$ to 5×7 . The three smallest sizes take single metal plateholders, three holders in a leather wallet being included in the price of the outfit.

★ ★ ★

Recently Mr. Henry Hammer and Richard Salzgeber of the Hammer Dry Plate Co. visited the factories of the Ansco Co. at Binghamton, N. Y., and were amazed at the size and extent of the Ansco plant. "Never in my wildest imaginings did I think that a day would be consumed in hurriedly going through it," Mr. Hammer remarked, to which Mr. Salzgeber replied, "I would rather make dry plates."

★ ★ ★

Chas. G. Willoughby, Broadway and 11th St., New York City, has issued his Square Deal Bargain List No. 126, which contains some very fine bargains in Kodaks and other cameras and Anastigmat lenses. It contains a 75% offer to repurchase within four months from date of sale any article not satisfactory, provided article is equal in condition as when sold, less reasonable

wear. This offer, of course, only applies to articles purchased through his store. Sixteen hundred new Rochester Adjustable Plate Holders have just been purchased, which are selling for less than manufactures cost. An opportunity for every camera owner or dealer.

★ ★ ★

Considerable interest has been aroused regarding the International Exposition of Photographic Arts and Industries under the auspices of the Photographic Dealers' Association of America, which is to be held in the New Grand Central Palace, New York, March 27th to April 3rd.

The principal factor considered in making arrangements was to bring the dealers and manufacturers of photographic apparatus and materials in even closer contact than ever before and at the same time to make it possible to invite the general public to the first exposition of this kind ever held in this country. In and within a radius of a few miles from New York City there is a population of over 7,000,000 people, and in the same territory it has been conservatively estimated there are at least 500 dealers of photographic supplies both large and small. It will therefore be readily seen that New York City is an ideal location for an exposition of this kind, and that the attendance of both the public and the dealers will be a very large one even though no account is taken of those who will come from a distance to enjoy the benefits to be derived from a display of this kind.

The exposition will consist of elaborate exhibits and displays of the merchandise of the manufacturers of photographic apparatus and materials from all over the world, as well as complete displays of merchandise closely allied thereto.

A convention hall in the New Grand Central Palace will be devoted exclusively to the meetings of the Photographic Dealers' Association of America, and will in no way interfere with the exposition proper, the same being open to the public daily between the hours of 11 a. m. and 11 p. m.

The general admission fee will be fifty cents, but at least 150,000 tickets of admission will be given to the exhibitors for dis-

tribution to their customers or in such other ways as they may see fit, thus an attendance of at least 150,000 is assured, a majority of whom will be prospective purchasers or at least vitally interested in photographic materials. This will insure many sales by the manufacturer who exhibits, who in turn can place these, if so desired, with the dealers in attendance. It is conservatively estimated that there will be at least 500 bona-fide dealers and representatives in attendance.

To attract attention to the convention and exposition, and as well increase the attendance of all classes of photographers and those interested in the art from all sections of the United States, working exhibits will be in continuous operation while the exposition hall is open, thus giving those in attendance the opportunity of seeing for the first time the process of manufacturing the products in question.

PRIZE PRINT CONTESTS.

As a further incentive to amateur and professional photographers, prize contests will be held and suitable prizes awarded for the best exhibits of photography in all its branches. In addition to these awards a number of manufacturers have signified the desire of giving special prizes for distribution by the convention committee.

The success of the convention held in Chicago from both the standpoint of the manufacturer and the dealers was such that the attendance for the coming convention will be much larger, and the displays the most elaborate and complete ever shown in the history of the industry.



NEW OPTICAL LENSES.

A new development and easily the highest type of eye lenses yet produced representing what is probably the greatest achievement in optics since the introduction of the anastigmat lens in photography, is the new Punktal Lenses, the exclusive manufacturing rights for the American continent which are held by the Bausch & Lomb Optical Co, of Rochester, New York, American associates of Carl Zeiss, Jena, Germany.

This new series of lenses marks an important epoch in the history of ophthalmic

optics, constituting as it does, one of the most significant contributions to general optics since the invention of the photographic anastigmat. In fact, the new lenses are strictly analogous to the photographic anastigmat, since they render in their field the same service that is performed by the latter in the field of photography. They remove a handicap under which the oculist and refractionist have been compelled to labor for years, by enabling them to prescribe for their patients lenses *equally well corrected from the center to the very margin*.

The word "*Punktal*" is of German origin, meaning in this application a lens which reproduces any given definite point of an object as a *distinct point* in the image. In other words, we have at last obtained an ophthalmic lens which is corrected for astigmatism in *all powers*.

For many years past practically the only improvements in ophthalmic lenses have been in the technique of manufacture. A better finished, more truly standardized product has been developed, but the optical principles employed have remained the same, with the same lack of astigmatic correction and the same narrow visual field of usefulness in all the flat forms.

With the popularization of the Meniscus and Toric lenses there was introduced a better corrected lens and one in which the angle of distinct view was materially increased. This was brought about largely through the publication of the Ophthalmic Lens Chart by the Bausch & Lomb Optical Company in 1912. The underlying principle of grinding each lens to a standard base curve was still employed, however, and as a result a certain amount of astigmatism remained in the greatest number of powers.

Even the flat forms of lenses would be satisfactory, if the eye always remained stationary in its socket and used only the center of the lens. The eye rotates, however, in viewing surrounding objects, and even in reading, and one compelled to wear ordinary lenses can only avail himself of this rotation within restricted limits, according to the form of lens used. As his line of sight moves toward the margin of the lens both blur and distortion are noticed



The Pleasures of Photography

are both broadened and deepened by showing your pictures with the

Bausch^{and} Lomb
BALOPTICON
THE PERFECT STEREOPTICON

You can make lantern slides from your negatives and thus project your pictures on the screen in large size.

Enlarging is both easy and fascinating. Large prints can be rapidly made from small negatives. The Model B Balopticon with a set of lantern slide making and enlarging accessories makes it possible for you to do all these.

The Home Balopticon with its new special Mazda lamp makes an ideal outfit for projection of prints as well as slides. Price . \$45

Model B for lantern slide projection . \$22 up

Set of accessories for use with Model B for making lantern slides or enlargements . \$18

Write for our booklets on "Lantern Slide Making," "Enlarging with Model B" and "The Home Balopticon."

Bausch & Lomb Optical Co.
561 ST. PAUL STREET ROCHESTER, N.Y.

Makers of the famous Tessar and Protar Lenses.
Leading manufacturers in America of high-grade Optical Products.



—very pronounced in the flat forms and less pronounced in the ordinary deep curved types.

This blur is caused by the astigmatism of oblique pencils of light. It becomes greater as the line of sight becomes more oblique, until a point is reached at which vision becomes decidedly indistinct. It is also more noticeable as the power of the lens used increases.

Desiring to eliminate all this astigmatism of oblique pencils and recognizing the impossibility of doing so when using a fixed base curve lens for all foci, Dr. Moritz von Rohr, of the scientific staff of Carl Zeiss, Jena, Germany, instituted extensive investigations in this field and published his findings in 1911. He succeeded in correcting for all foci the astigmatism noticeable toward the margin of ordinary lenses by computing the power of each lens and its correction separately.

Problems of manufacture were then undertaken and have now been solved satisfactorily. The result is the new *Punktal* lenses. The word has been registered as a trade mark in the United States by the firm of Carl Zeiss, and patents obtained upon the astigmatic corrections.

The *Punktal* lens, by eliminating all astigmatism, enables the wearer to see objects distinctly within an angle of view of about 60 degrees. The observer is thus enabled to see through the extreme margin of the lens as clearly as through the center.

These lenses are made only in the deep curved forms and stand for the ultra refinement in ophthalmic lens manufacture, representing what may safely be regarded as the highest possible achievement in ophthalmic optics. They are no more difficult in application than the ordinary types of deep-formed lenses now employed.

Inasmuch as *Punktal* lenses are the products of precise workmanship, a guarantee of the accuracy of their curves and surfaces is assured. Each lens therefore bears upon its surface, near the margin, a small trade mark of the Bausch & Lomb Optical Company, which, however, is made so as not to be easily distinguishable with the naked eye, but which can be seen with a hand magnifier, and serves as a mark of identity upon this product.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

RATES FOR DISPLAY ADVERTISING SENT ON APPLICATION

THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,

135 West 14th Street, New York.

Bartholdi Institute Photography

Practical Instruction in Photography,
Photoengraving, Illustrating and
Painting. ESTABLISHED 1880

92 FIFTH AVE.

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THE CLARENCE H. WHITE SCHOOL OF MODERN PHOTOGRAPHY

OPEN OCTOBER TO JUNE

Instructors: Paul Lewis Anderson, Max Weber

For information address CLARENCE H. WHITE

230 East 11th Street, New York

BARGAIN SHEET No. 126

Now ready. Ask also for LATEST NEWS
FROM THE FRONT. Get our proposition
before buying anything photographic

WILLOUGHBY & A SQUARE DEAL

810 BROADWAY, NEW YORK

STOP! LOOK!

Our New No. 19 BARGAIN LIST which is now ready is better than ever. Contains some startling values in Cameras, Lenses and Photographic Supplies. Imported Ica and Butcher Cameras. Headquarters for Cyko Paper.

Write today for FREE COPY
NEW YORK CAMERA EXCHANGE
111½ Fulton Street, New York

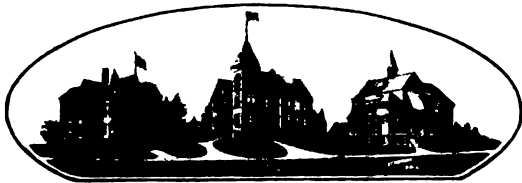
HANDY REDUCING PASTE

QUICKEST and SAFEST

For accurate local work on a DRY NEGATIVE

1 Box and Directions, 80 cents

L. C. BISHOP, 508 Dean Bldg., South Bend, Ind.



Learn a Paying Profession

that assures you a good income and position for life. For 22 years we have successfully taught

PHOTOGRAPHY

Photo-Engraving and Three-Color Work

Our graduates earn from \$20 to \$50 a week. We assist them to secure these positions. Learn how you can become successful. Terms easy—living inexpensive. Write for Catalogue—NOW.

ILLINOIS COLLEGE OF PHOTOGRAPHY

967 Wabash Avenue, Effingham, Illinois

Photographers Sell Post Cards from your negatives. Put them in the stores, there is money in it.

YOU HAVE THE NEGATIVES, WE WILL MAKE THE CARDS

100 from 1 negative, \$ 2.00	from 5 to 10 negatives, \$ 3.25
300 from 1 negative, 4.20	from 5 to 10 negatives, 6.30
500 from 1 negative, 6.25	from 5 to 10 negatives, 8.00
1000 from 1 negative, 10.00	from 5 to 10 negatives, 12.50


Delivery from 3 to 5 days, return postage 10 cents per 100

Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens in cells, with case, will cover 5 x 7 plate wide open, \$18.00 post paid.

We take cameras, lenses, etc., in exchange. Ask us before buying.

WRIGHT PHOTO SUPPLIES RACINE, WIS.



The Dainty
The Pen
for the
Spur of the Moment

whether it be in the
office or on the road.
DAINTY as its name, but
strong, durable, and convenient.
Inlaid pearl, with chased gold bands.
Sent post paid on receipt of price.
Price, \$2.50.

STYLES & CASH, 135 W. 14th St. NEW YORK



W R E N N ' S
LINTLESS PHOTO BLOTTING, C. P., DOUBLE HARD
W R E N N ' S
BEST BLOTTING
HIGHLY ABSORBENT CHEMICALLY PURE

Eastman Kodak Company

ROCHESTER, N. Y., The Kodak City.

"That Wonderful Little Camera."

This extract from a letter written by a gentleman in Philadelphia, who, by the way, is connected with the *Philadelphia North American*, came to our attention a short time ago:

"The Vest Pocket Kodak, that wonderful little camera, bought as a 'plaything' for my son, I find myself using it to the exclusion of my plate camera, inasmuch as the majority of negatives stand unbelievable enlargement."

All that is necessary to convince one of the practicability of the Vest Pocket Kodak is a personal acquaintance with it. It's the very essence of efficiency. So small and smooth that it will readily slip into the vest pocket, so dainty that it is perfectly at home in a lady's hand bag—the Vest Pocket Kodak may always be carried where a larger camera would sometimes be an inconvenience. This is one reason why the gentleman from Philadelphia found himself using it to the exclusion of his heavy plate camera. Many people carry it all the time exactly as they carry a watch. If you have room for a watch, you have room for a V. P. K. You don't know it's there till you want it and think of the picture possibilities you have missed because you didn't have a camera with you.

The Vest Pocket Kodak should not form the entire photographic equipment. This is asking too much of it. There are plenty of photographic situations that the larger Kodaks can cope with more satisfactorily than can the V. P. K. On the other hand, there are many occasions that a larger camera is

out of the question, and it is at such times that the V. P. K. fulfills its destiny. It should be a part of every photographic equipment—and it is proving itself to be a very important part.

The V. P. K. gives rectangular pictures, $1\frac{5}{8} \times 2\frac{1}{2}$ inches, but to quote our friend from Philadelphia, "the majority of the negatives stand unbelievable enlargement." The pictures in their natural size are very satisfactory, but to enlarge them to post card size is a perfectly simple operation. The Vest Pocket Enlarging Camera has been constructed for this one size enlargement and performs the operation most simply. It's almost as easy as making the contact print. Of course Vest Pocket negatives are not limited to post card size enlargement and we imagine our Philadelphia friend, for example, has had some very successful results with, let us say, 8 x 10 enlargements. Post card size, however, has always been the most popular size for amateurs, and Vest Pocket negatives and the Vest Pocket Kodak Enlarging Camera prove a very successful combination.

All good Vest Pocket negatives will stand enlargement but the microscopic definition so desirable in this kind of work is best secured with the Vest Pocket Kodak, fitted with the Kodak Anastigmat $f.8$, a lens ground from the finest glass and submitted to those same rigid tests that have helped to make Kodak another name for reliability. Kodak Anastigmat $f.8$ is free from astigmatism, and



Vest Pocket Kodak
Actual Size.

(1)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

cuts sharp clear to the edges of each negative. In short, it is an anastigmat of the highest quality possible and at $f.8$ will do just what any anastigmat will do, regardless of price.

The Vest Pocket Kodak is a fixed focus Kodak—is ready for business just as soon as you are. It has two instantaneous speeds, $1/25$ and $1/50$ of a second as well as time and bulb action. It has a brilliant reversible finder and uses Kodak Film cartridges of 8 exposures. Mechanically it is as right as a full-jeweled watch, photographically, in its own sphere, it could hardly be improved upon.

The only man who could possibly be dissatisfied with the Vest Pocket Kodak would be the man who bought it for a plaything and really wanted a plaything. He *would* be disappointed.

THE PRICE.

Vest Pocket Kodak, Meniscus Achromatic Lens, - - -	\$ 6.00
Vest Pocket Kodak, Kodak Anastigmat Lens, $f.8$, - - -	10.00
Vest Pocket Kodak Enlarging Camera, - - -	1.75

THE CHARM OF THE HOME MAKES THE CHARM OF HOME PHOTOGRAPHY.



Kodak Portrait Attachment.

There was once a globe trotter who had traveled pretty much everywhere with a Kodak as a constant companion.

He had taken wonderful pictures of French cathedrals,—this was before the war,—and English castles, and bits of Swiss and Italian scenery—the most glorious views in the world had been faithfully recorded by his trusty Kodak. You can imagine what a wonderful photographic collection this man had and yet his favorite picture, the one he treasured the most, was not a rugged Alpine pass or a stately English castle, but a picture of his pet cat comfortably curled up on the big window seat—one of those typical home scenes portrayed through the medium of the Kodak Portrait Attachment. After all it's the little stories of home life, the intimate things that identify our home from everybody else's, that make the strongest appeal. It's the charm of the home that makes the charm of home photography, and it's the Kodak Portrait Attachment that makes home photography possible for every amateur.

The Kodak Portrait Attachment is just another lens, which, when slipped on over the regular lens equipment, enables you to work so close to your subject that it may be made to occupy a good part of the area of the picture. The attachment makes the lens cut sharp at short distances—with the Folding Kodaks a subject only 2 ft. 8 inches away may be brought into focus. Subjects, that with the ordinary lens equipment appear too small in the pictures to be completely satisfying, may now be made to assume the required proportions.

Perhaps, for example, you want a picture of a vase of flowers. With the regular lens equipment the resulting photograph shows a fine picture of the piano and the Morris chair, beside which the vase seems woefully insignificant. With the Kodak Portrait Attachment the vase of flowers could be made the principal object of the picture.

It gives you enlargements at first hand—and costs but fifty cents.

(2)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

"BY FLASHLIGHT."

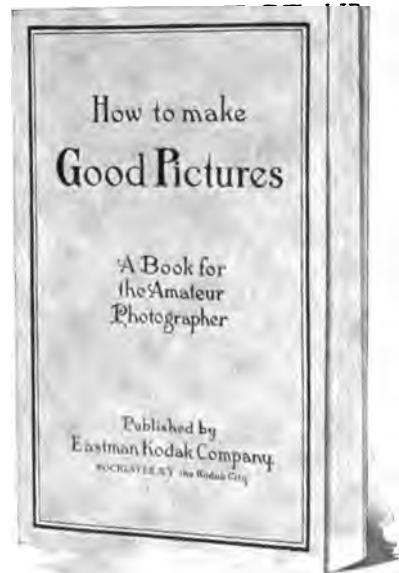
There is a little book called "By Flashlight" that is waiting for you at your dealer's. It won't cost you anything—in fact, it will pay you to read it. It isn't merely a manual. It does not contain a lot of cut-and-dried directions. It's brimful of flashlight information written in understandable language and readable style. There are many illustrations—half-tones and diagrams—and they contribute their full share toward bringing the story home. In short, the booklet covers flashlight from "f" to "t" and a careful reading of its contents enables the amateur to make a success of night work from the very start.

It is to be regretted that some people still let picture possibilities slide away, evening after evening, while their Kodak boils inwardly at this neglect. At this time of the year, particularly, almost every evening fairly bulges with opportunities for the kind of pictures you will treasure most—evening parties or "just some of the crowd who drop in", fireside groups, the comfortable scene in the library with father immersed in his newspaper and the younger generation grinding out tomorrow's lessons, pictures of sleeping children—this is the sort of picture that tells a story, and the picture that tells a story is the picture worth while.

Flashlight work has been made very simple through the agency of Eastman Flash Sheets, the successful manipulation of which offers no difficulty. The sheets burn slowly and give a broad, soft light, ideal for every purpose except where absolutely instantaneous exposures are required. Eastman Spreader Flash Cartridges provide absolutely instantaneous exposures, but the amateur will meet few photographic situations which he cannot cope with most satisfactorily with Eastman Flash Sheets. For the sake of convenience,

it is recommended that the sheets be used with the Kodak Flash Sheet Holder, a very practical device which may be held in the hand or supported by a tripod. By means of this holder, the flash sheet is ignited from behind a metal shield, with the shield between the operator and the flash.

The Book that takes the Place of Experience



A PRACTICAL and instructive book in which the essentials of good picture making are given in such a clear way and illustrated in such an interesting and understandable manner that the right methods of working become simple from the start.

How to Make Good Pictures, paper covers, \$.25
Do., Library Edition, cloth covers, - - 1.00

At your Dealer's

(3)

It looks like paper but it sticks like glue.



Kodak Dry Mounting Tissue

provides a clean, sure method for mounting prints—excellent for card mounting and particularly adapted for album work.

It insures perfect contact, will not cause curling or warping even on the thinnest mount and is easy and convenient to handle.

Just tack a piece of the tissue to the back of the print by touching with the point of a hot iron, trim the print and the tissue together, cover with blotter and press with hot iron. Your print is mounted and mounted *right*.

A recent reduction in the price of Kodak Dry Mounting Tissue makes it as inexpensive as it is efficient.

THE PRICE.

	Package	Per Package	Per Gross		Package	Per Package	Per Gross
2¼ x 3¼,	3 doz.,	\$.08	\$.20	4 x 5,	2 doz.,	\$.08	\$.40
2½ x 4¼,	3 "	.08	.25	5 x 7,	1 "	.08	.80
3½ x 3½,	3 "	.08	.25	6½ x 8½,	1 "	.12	1.20
3¼ x 4¼,	3 "	.08	.25	8 x 10,	1 "	.15	1.50
3¼ x 5½,	2 "	.08	.40				
5 yards, 20 inches wide, per roll,			-				\$.55

EASTMAN KODAK COMPANY,

ROCHESTER, N. Y.

At your dealer's.



No. 1A Autographic Kodak Junior.

*With the introduction
of Nos. 1 and 1A
Autographic Kodak
Juniors, the line of*

Autographic KODAKS

*in the popular sizes
is complete.*

DESPITE the fact that the Autographic feature enabling you to date and title your negatives when you make them greatly increases the value of the Kodak to the amateur, the advance in price over the regular models is slight, and there is no advance in the price of film.

The autographic record appearing in the margin below the negative answers, for all time, the questions "*Who?*" "*When?*" "*Where?*" or "*How?*" The occasion or place, interesting facts about the children, the stop, exposure and date, a friend's autograph under his portrait—this is the sort of data that, incorporated in an autographic record, increases the value of the picture with each succeeding year.

Inasmuch as the autographic attachment is an exclusive feature of the Kodak, it may be inferred at once and rightly, that its operation is simplicity, itself. Open the little door at the back of the Kodak, write what data you choose, expose to the light of the sky and you will find, upon development, the record photographically imprinted below the negative.

The new Autographic Booklet is out and may be obtained from your dealer or from us, by mail.

THE PRICE.

No. 1 Autographic Kodak Junior, with meniscus achromatic lens and Kodak Ball Bearing shutter, - - - - -	\$ 9.00
Do., with R. R. lens, - - - - -	10.50
No. 1A Autographic Kodak Junior, with meniscus achromatic lens and Kodak Ball Bearing shutter, - - - - -	11.00
Do., with R. R. lens, - - - - -	13.00
No. 1A Autographic Kodak, R. R. lens, Kodak Ball Bearing shutter, - - - - -	17.50
Do., Anastigmat lens, f.8, - - - - -	22.50
No. 3 Autographic Kodak, R. R. lens, Kodak Ball Bearing shutter, - - - - -	20.00
Do., Kodak Anastigmat lens, f.8, - - - - -	25.00
No. 3A Autographic Kodak, R. R. lens, Kodak Ball Bearing shutter, - - - - -	22.50
Do., Kodak Anastigmat lens, f.8, - - - - -	27.50

EASTMAN KODAK COMPANY,

ROCHESTER, N. Y.

At your dealer's.

*The big
link in the
Kodak chain
of daylight
all the way.*



THE KODAK FILM TANK

Aside from the convenience of the Kodak Film Tank by which you can develop your films anywhere, in broad daylight, the fact that tank development yields you the best possible negatives, in every case, is the one point that drives the story home.

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.

THE PHOTOGRAPHIC TIMES PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed on March 30th, 1915, so as to be announced in the May Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00 Second Prize, \$5.00 Third Prize, \$3.00

And three honorable mention awards of a year's subscription to
THE PHOTOGRAPHIC TIMES.

In addition to which those prints which deserve it, will be Highly Commended.

CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. The subject for this competition is "Winter Landscapes."

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

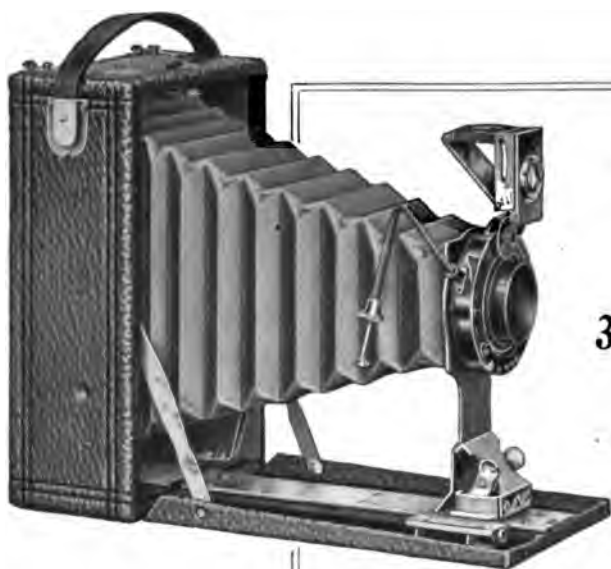
NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used: those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received not later than March 30th.



An ideal vacation
camera, making
 $3\frac{1}{4} \times 5\frac{1}{2}$ (post card size)
pictures, for
\$10.50

*Loads in day-
light*

*Weights only
29 ounces*

*Dimensions
 $2\frac{3}{8} \times 4\frac{5}{8} \times 7\frac{1}{8}$
inches*

*Covered with
genuine grain
leather*

Film Premo No. 1

A remarkably light, compact camera for pictures of the artistic 3A proportion.

Can be carried and used anywhere, and is so easy to operate that anyone who can read the simple instructions that come with the camera, can make first-class pictures from the very start.

To load, merely open back, drop in Premo Film Pack, close back and all is ready. To change films for successive exposures just pull out successive film pack tabs.

This model is fitted with a tested meniscus achromatic lens of the highest quality obtainable. The shutter is the new Kodak Ball Bearing with cable release, and the camera is fitted with two tripod sockets, reversible brilliant finder, and is made throughout of the best of materials, by men who have spent their lives in camera making.

Get the new Premo catalogue—a book that no one interested in photography should be without. It describes the many Premo advantages fully—the daylight loading Film Premos, the Premos that take films or plates with equal facility, the Premo Film Pack and tank developing system. It's free at the dealer's, or will be gladly mailed to any address on request.

Rochester Optical Division

Eastman Kodak Company

Rochester, N. Y.

Quick and Dependable under the most trying conditions.

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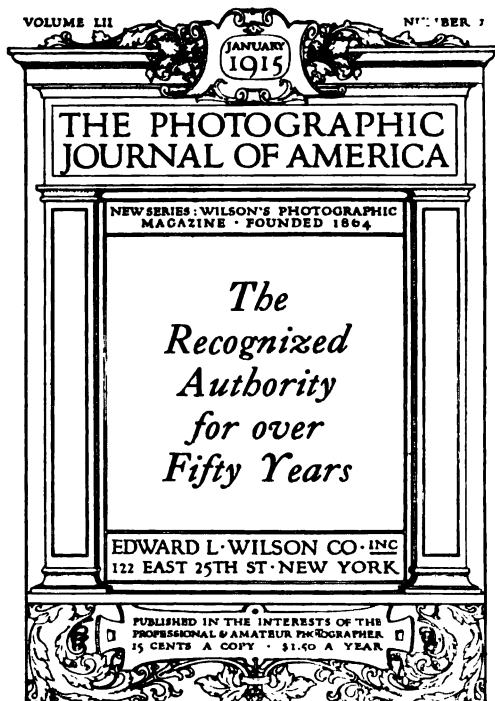
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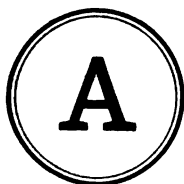
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Volume XLVII

MARCH, 1915

No. 3

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ENLARGING METHODS

BY WILLIAM S. DAVIS

Illustrated by Six Diagrams

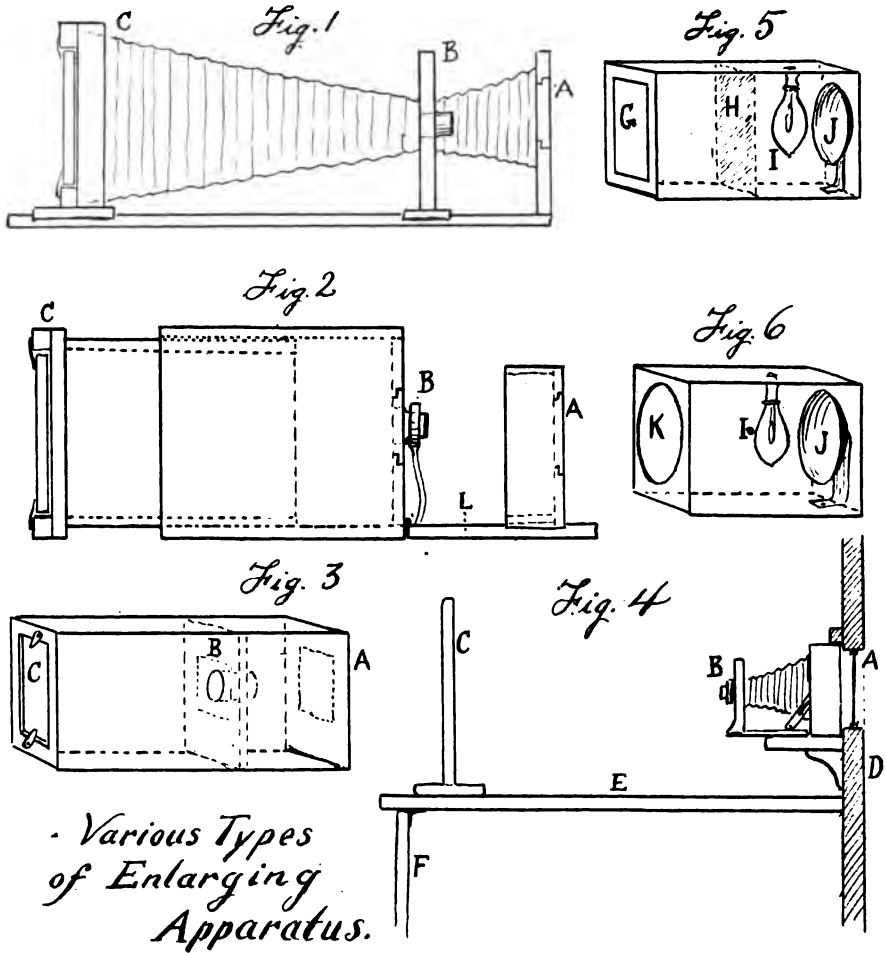
THE practice of making enlargements from small negatives is now so universal all ambitious amateurs generally wish to take up the process after becoming familiar with the ordinary details of negative making and contact printing.

For the benefit of beginners absolutely unacquainted with the matter I may say the principle involved is simply a reversal of the usual procedure when making the negative. When photographing a fair-sized object (i. e., one larger than could be represented full size on the plate or film in use) the lens must be very much nearer the plate than it is to the object to make the image small enough. Whereas, should one wish to make an enlargement the same size as the object from the small negative thus obtained the lens would have to be same distance from negative as it was when same was taken; then by placing a

sheet of sensitive material of sufficient size the same distance from lens as the object was the image from negative would be projected in natural size upon the sensitive material. The degree of enlargement is simply a matter of relative distances between negative, lens and paper, a small amount of magnification requiring less distance between paper and lens and more between latter and negative than is the case where a larger amount is wanted.

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of Enlarging
Apparatus.*

enlargements we will describe briefly the principal varieties of apparatus employed.

Fig. 1 shows the usual style of day-light enlarger, the negative being inserted in a kit at A, the lens mounted at B, and the focussing-screen, and holder containing the material upon which the enlargement is made, at C. In addition to the focussing adjustments for regulating size of image, a horizontal and vertical sliding front is usually provided so that any portion of the negative can be centered.

A modified form which any amateur handy with tools can make is represented in Fig. 2. Alteration in size of image is in this case obtained by means of two boxes in place of a bellows, the rear one sliding within the other as shown. If the lens on one's camera is mounted on a removable lens-board, or an extra flange is obtained, it can be mounted whenever needed upon the front of outer box. A folding bed L is hinged to the front and receives the sliding box A containing negative. Extraneous light between box and

lens can be excluded well enough by throwing a focussing-cloth over the space between. If a lens of 6-inch focus is used the telescopic boxes should each be about 16 inches long to permit of three diameter enlargements being made. An old plate holder of the required size can be used to hold the bromide paper by placing a piece of thin clear glass over paper when loading the holder.

Set focus enlargers similar to that illustrated in Fig. 3 are now very popular, especially for small work, being convenient to use and sold at a low price. They do not, of course, allow any alteration in magnification of subject, and the cheap lenses fitted to them are stopped down so much to insure a fairly sharp result that much longer exposures are necessary than with a first class lens which can be used at a large aperture. If one makes their own apparatus the latter defect may be overcome by using the regular camera lens, provided, of course, it is a good one and of suitable focus. For two diameter enlargements (such as $6\frac{1}{2} \times 8\frac{1}{2}$ from $3\frac{1}{4} \times 4\frac{1}{4}$ or 8×10 from 4×5) with a lens of 6 inch focus, the negative would have to be placed approximately 9 inches from lens-stop, and the paper 18 inches. The back C should be fitted with a sheet of clear glass set in a recess, and closed by a snug fitting back-board, held by springs or buttons. Such an apparatus must be taken to a dark room to load, the paper being laid film side next the glass and back fastened over same.

The arrangement shown in Fig. 4 can only be used in a darkened room on account of the bromide paper sup-

port being in the open, but, where a permanent dark-room of sufficient size is available, is convenient, particularly when combination printing or much local dodging of negative is practiced.

In fitting up such an apparatus a window is blocked out by a frame, D, covered with any opaque material with the exception of an opening, A, large enough to receive the negative. On inside a small frame and shelf is fastened to receive the camera, the back of which should be removed. A board, C, large enough to hold the paper (which is kept in place with pins or a sheet of glass) is made to slide upon the extension bed, E, the latter being supported by a folding leg, F. C should be covered with white paper upon which the various sizes of enlargements are clearly ruled for convenience in focussing.

One more style of apparatus, not illustrated here, is the well known enlarging lantern in which some kind of artificial light is used. This is similar to an ordinary stereopticon, only larger condensers are used, according to size of negative.

How best to illuminate the negative depends upon circumstances. When daylight is used any of the following methods are available:

If a clear view of the sky can be had a portable apparatus like Fig. 1 may be tilted up at an angle to face the sky, taking care not to allow sunshine to fall directly upon the negative. A north light is most uniform.

In case the field of vision is obstructed in any manner a screen of ground glass or thin white muslin should be placed a few inches from

negative to diffuse the light. This is a good way when it is necessary to work by a south window, as screen may be in sunlight if desired.

Still another method is to fasten a fair-sized mirror or white card at an angle of forty-five degrees back of negative to reflect light from zenith. Either this or the ground glass screen is used with the form of enlarger represented in Fig. 4.

When small set-focus enlargers are used they are usually placed on end where a diffused light from the sky will fall upon the negative.

If artificial light is used with any of the enlargers illustrated care is needed to obtain uniform illumination. This can be secured, however, by arranging the light as in Figs. 5 or 6. In Fig. 5 a piece of fine ground glass, G, is mounted at the end of a box, which should be 12 to 15 inches long and several inches larger each way than negative. At center a sheet of Japanese tissue or tracing paper, H, stretched smoothly on a frame, is set to still further diffuse the light, and just back of this is placed the illuminant, I, which may with advantage be backed by a good silvered reflector, J. Electric, incandescent gas, acetylene or magnesium ribbon will all furnish a good light. With the first three named the best effect would be secured by using several bulbs or jets in a row, in which case a plain white card or mirror should be used as a reflector.

If magnesium ribbon is employed it is best held in a pair of tweezers or a clip and moved about while burning. If this is used sufficient light for focusing can be had by placing a com-

mon kerosene lamp in position temporarily.

For use the ground glass end of box is placed close to the negative.

With Fig. 6 much stronger illumination can be obtained as the diffusing screens are dispensed with, their place being taken by a condenser, K, large enough to cover the diagonal of negative. This is mounted convex side toward the light. The light must be carefully centered, a single point of illumination in this case being best, at the proper distance from condenser, which is settled by latter's focus.

Coming now to the actual manipulation connected with making enlargements, the first requirement for really fine results is a suitable negative, one containing a full range of delicate tone gradation and inclining rather to thinness being ideal for what may be termed a normal result. The sharpness of definition necessary depends upon the effect desired and the degree of enlargement to which negative is subjected.

The negative is inserted film side toward the lens and the size of enlargement regulated by adjusting distance between it and lens, after which the fine focussing is done by moving the back or easel, as case may be. A useful table, showing distances between negative, lens and paper for enlargements up to eight diameters, and with lenses ranging from two to nine inches focus, is published in "The American Annual of Photography," and other year books.

Bromide, and the faster grades of "gaslight" developing paper are used, the latter being preferred by many on account of yielding more brilliant re-

sults, especially with thin soft negatives, but being much slower than the regular bromide paper is, as a rule, only suitable for daylight enlarging, as exposures by artificial light would be long, unless a very strong light was employed.

The only way to obtain the very best results is to select a grade of paper to suit the negative, remembering that to secure a similar range of gradation a softer grade of paper is in each case required for enlarging than for contact printing. Thus for a negative which gives the best contact print on the contrast or "Carbon" gaslight paper, a softer grade would be selected for an enlargement.

Bromide paper is furnished in both hard and soft grades, the first being most suitable for general use except with very contrasty negatives.

Correct exposure is best found by using small strips of paper until the right time has been ascertained, as light, negative, speed of paper and degree of enlargement are all varying factors to be considered, making it impossible to furnish any definite information. Working by good day-

light, however, with lens at *f.* 8 to 11 (nominal) exposures on bromide would probably run between 5 and 30 seconds for most negatives, while under similar conditions soft gaslight paper might require from 1 to 10 minutes.

Developing formulæ and general treatment do not call for special notice, being the same as in contact printing, for which the paper maker's instructions are sufficient.

When enlarged prints are wanted on gum, carbon, platinum, or any other paper not sensitive enough to use in an enlarger direct it is necessary to make a large negative to print from. This is accomplished by first making a positive on a "transparency" or other slow plate, which, if desired, may be done by contact printing, as size is not important; and using this in place of the small negative when making the enlargement. The enlarged negative is usually made upon a plate of slow or medium speed, although where the preservation of fine detail is not important and the finished picture is upon rough paper, a thin bromide paper can be used instead.



CONFESSIONS OF A TRAVELING PHOTOGRAPHER

With Six Illustrations

BY ALICE M. WILLIS

HOME-PORTRAIT PHOTOGRAPHY, especially that of children, being a phrase to conjure by at the present hour, I feel that it may be of interest and amusement to other kodak fiends to hear my confessions along that line.

Destined as I was to spend an entire summer in a very quiet Eastern village, and, being one of those individuals to whom the mere thought of enforced idleness is a torment, I devised a brilliant scheme for passing

away the time. The village and surrounding country abounded with children and pets. Why not make a specialty of photographing them, thereby not only collecting an attractive series of photographs, but also earning, perhaps, enough to buy myself a fine camera? I pondered over these possibilities for a number of days, my timidity and inexperience being the chief stumbling block; but, finally, with "courage screwed to the sticking point," set forth in search of prey.



BLOWING BUBBLES

Alice M. Willis

And never did hunter with gun and hounds follow the trail more eagerly!

The fact that there were two photographers in the village where I stayed, both of whom were my friends, obliged me to seek neighboring pastures. Equipped with just a little twelve-dollar Brownie, a telescoping tripod, and a portrait attachment, I set forth for the next village three miles away, which was Silver Springs. This name proved one of significance, as a large portion of my summer's income came from that source.

With fear and trembling, I approached the first house on the village outskirts, where a little girl was playing. Fortunately, a cordial welcome was accorded me by a genial, motherly woman. In response to my inquiry, she engaged the camera to take her little cousin's picture with the dog, Ted, in an old heirloom of a cradle which had been made for twins; then, wishing me all kinds of success, she waved me off towards the village. A good omen this, surely, for everyone there treated me pleasantly, and soon my two rolls of film were completely filled, a far bigger harvest than I had anticipated. Had my first attempt at soliciting orders been repulsed, it is very doubtful whether my courage would have stood a second ordeal.

Upon returning a few days later to Silver Springs with some nice little prints, my friend received them in this wise: "Look at Ted! ain't he cute? Dear Ted! And the cradle—my, how natural! It's good of Baby, too! But Ted!"

I spent many delightful hours with the little ones, pretty, unspoiled, coun-



THE DANCER

Alice M. Willis

try youngsters, who did not feel the lack of hand-made toys when all-outdoors was theirs. Nearly every child had a kitten or other pet which we often used to great effect. Bubble-blowing held an especial charm for me, so I carried my own apparatus around, thereby causing a boom in penny pipes at the country grocery.

In all this work naturalness of pose was, of course, my chief aim. Most of the mothers, not pretending any knowledge of photography, allowed me blissful freedom in arranging my small subjects, although some women insisted that they should be "dolled up" for the occasion. Time and time again, however, the "Now, Jennie, look at the camera!" warning had to be contradicted. It amounts to a positive superstition with some people that, unless the sitter keeps an eye on the camera, it will get away.

As a rule, my subjects gave me little trouble, but eagerly entered into the



PLAYING "GROWN-UP"



THE PIANISTE

Alice M. Willis

spirit of the game, which they seemed to understand. The fact that I am still a girl is greatly to my advantage both in dealing with parents and children, the fact disarming any suspicions of the former, and placing me on an easy footing with the latter. Of course, difficulties did arise at times. Children would move, get out of focus, or make ugly scowling faces and spoil films; parents would be displeased if Jenny's curls were delightfully disarranged, or Tommy's collar windblown. Strange to say, the pictures that I regarded as the choicest prizes were invariably turned down by the parent, but verily they were their own reward!

Patience was, next to the camera, my most valuable asset, for it took all of Job's patience to get along with

some children, and Job's patience plus to get along with their parents. For example, one child wriggled and acted most perversely during the exposure; then, after it was made with great difficulty, howled piteously to have her picture taken.

Upon my first visit to another village, which could be reached only by train, I questioned the stage-driver, a big, hulking, good-natured fellow, in this fashion: "Can you tell me which houses have children?"—a foolish question, but one which gave rise to conversation.

"Wall, now, ye kin hardly miss 'em; most any house 'cep'n mine," with a guffaw. "There ain't none thar! Then, growing confidential, "Say, Miss, see that 'ere yaller house two doors from the blacksmith's? I

tell you thar's the purtiest pair of twins in thar! Them's slicks-uns all right!"

Whereupon I immediately went and hunted up those jewels of Cornelia, and found them "slick uns all right!" After three hopeless attempts, I resigned them to the moving-picture man.

Before summer was over, I knew everybody's back and front doorsteps for a circuit of eight or ten miles, could call most of the children by name, had worn out two pairs of

shoes, and had become a champion walker. I also knew which were the families in each community who didn't pay their bills. Incidentally, I used up twenty-two dollars' worth of perfectly good Eastman Speed Film, and returned from Rochester the proud possessor of a Graflex camera, every ounce of which represents strenuous effort. I say ounce advisedly, for it is worth its weight in gold to me, a statement which stands for a good deal, especially after carrying the camera three miles at a stretch!!

MAKING COPPER PLATES IN HALF TONE AND LINE WITHOUT ETCHING

BY A. J. JARMANS

THE production of copper plates for printing purposes in half-tone or line, that may be employed for intaglio or typographic work has long been the desire of many persons whose object is the making of such plates without employing any method of etching by the means of acids or mordants.

Although this kind of work has been done, the process and its general line of manipulation has been kept secret. The writer having produced many of these plates in a most simple and practical way, will in this article give the necessary instruction, so that anyone may produce such plates at will. In the first place a good negative must be made with a half-tone screen, with any number of lines to suit, or it may be a negative for a subject in line; in either case the dots or lines must be well de-

fined, in the same way as they are rendered in the usual half-tone negative, although it will be much better in the result if the dots or lines are made as black or opaque as possible, and the shadows perfectly clear; a wet collodion or a process gelatine dry plate will answer the purpose.

In the case of a plate being required for intaglio printing, a good transparency will be required.

The base of the process is swelled gelatine, which is made by the use of a commercial carbon tissue known as relievotype tissue, which consists of a tough paper being coated with a heavy coating of gelatine, containing a small percentage of India ink. This tissue is cut into pieces about half an inch larger each way than required because after it has been sensitized and dried it must be cut to the exact size

to suit. The tissue is made sensitive to light by being soaked in a solution of potassium bichromate for three or four minutes, in fact, until it lies quite flat in the solution, the composition of which is as follows (the sensitizing solution) :

Water. 50 fluid ozs.
Potassium bichromate (cp) 1½ ozs.
Carbonate of ammonia . . . 60 grains
Glycerine. 2 drams

As soon as the bichromate has become completely dissolved, as well as the carbonate of ammonia, the solution must be filtered through absorbent cotton, when it will be ready for sensitizing the tissue. It may be used four times for sensitizing, but not more than this, because the small percentage of gelatine which becomes dissolved in the liquid brings about decomposition.

SENSITIZING THE TISSUE.

Place the tissue into the bichromate solution in a clean tray, using rubber finger tips to protect the fingers from the bichromate. As soon as the tissue lies quite flat, it must be removed, and laid face down upon a clean sheet of glass that has been made cold by rubbing a piece of ice over the surface. A piece of rubber sheeting must be placed upon the tissue, and a squeegee applied, so as to squeeze the excess of liquid from the tissue, the cloth being now removed, and the back of the tissue wiped well, when with two wood clips, the tissue is lifted at one end and a clip inserted, and the whole lifted from the glass plate and suspended in a dark closet to dry.

As soon as the tissue is dry, it may be used at once to print upon under



IN THE WINDOW SEAT

Alice M. Willis

the half-tone or line negative, and as the progress of the printing cannot be seen, the following method can be relied upon to secure a correct print: Place the tissue upon the negative, holding it firmly in contact by means of a good pressure, then place a similar negative in another printing frame, and place thereon a small strip of gelatine printing-out paper, both of the negatives being covered with tissue paper by pasting this upon the printing frame. As soon as the printing-out paper shows a print, that appears to be the right depth for a finished picture, the carbon print will be done. Remove both frames, repair to the dark room, and have ready a glass plate that has a coating of hardened gelatine upon its surface. Place the plate in one tray with cold water. This may be per-

mitted to soak for half an hour without injury. Place the printed tissue into another tray of clean water, and after soaking long enough to become quite flattened out, place face down upon the hardened gelatine; apply the rubber cloth, and squeegee them well together. Allow the plate to stand untouched for half an hour, then it must be placed into warm water, and the temperature gradually increased until the paper can be lifted, leaving the gelatine image upon the glass plate. This plate should now be inserted into a grooved zinc washing box, and kept covered with the warm water for about half an hour; meantime, it may be removed for examination, when it will be found to present a perfect image imprinted by the negative, standing in high relief. Although it may present



"CHOO-CHOO TRAIN"

Alice M. Willis

a jelly-like appearance, this is no defect; wash it gently under the faucet and place it in a bath of formalin made by mixing one ounce by measure of formaldehyde with twenty ounces of water; let the plate soak in this for five minutes, and then place it in a rack to dry, when it will be found upon examination that a very fine image is the result, standing in high relief and perfect in every dot and line. Now we come to the process of making this gelatine image a conductor of electricity, which is accomplished by placing the plate into a solution of nitrate of silver, consisting of 30 grains of nitrate to each ounce of distilled water. It must soak in this for ten minutes, then moved slightly and quickly rinsed in a gentle stream of water and plunged directly into a solution of protosulphate of iron made up of one ounce of protosulphate of iron in eight ounces of distilled water, and allowed to remain quite undisturbed for several minutes, when it will be seen that a coating of metallic silver has been formed, and penetrated clean down to the glass plate. To make sure that the gelatine film has become a perfect conductor the operation must be repeated three or four times, when it may then be clipped at one end with a strip of thin brass plate about half an inch wide, and the length of the plate, and held by two or three metal clips, attached to a wire from a plating dynamo, or a suitable Bunsen battery, placed at once into an electrotyping bath, and a coating of copper deposited all over the gelatine image.

As soon as the deposit has been made, so as to give the desired thickness, the plate must be removed, well

washed, and dabbed dry, the back being levelled by passing a fine cut flat file over the surface, and then placed into hot water, so as to loosen the plate, when it may be removed, and the face cleaned by the application of a soft nail brush, with a mixture of common whiting and jewelers' rouge. The plate may now be tinned all over the back, and firmly soldered to a stout copper or steel plate, trimmed and mounted for the printing press. To protect the face of the plate from receiving any faint deposit of solder, it may be covered with a mixture of talcum powder incorporated with a small quantity of plaster of paris. This is mixed with water and applied with a brush all over the surface. It will form an excellent protective coating, easily removed either with a brush or a tuft of absorbent cotton and water.

A plate made as described will present the appearance of a plate that had been deeply etched. Such a plate may be coated with steel or nickel as desired. The following formula will give a solution for coating a copper plate with steel that answers the purpose well.

STEEL FACING COPPER PLATES.

Warm distilled water. 35 ounces
Ammonium chloride... 2¼ ounces
Protosulphate of iron. 1 oz. and 1 dram
Ammonia sulphate of
iron. 1 oz. and 1 dram

The above must be well mixed by shaking the containing bottle vigorously, then allowed to stand for forty-eight hours, and filtered each time before use. A piece of sheet steel must be used for the anode; for small plates a current of 3 amperes, and 4 volts will coat the plate.

JUST RECORD PHOTOGRAPHS

BY HARRY A. BRODINE.

WHILE looking over my negatives the other day I came across a batch made two years ago during a trip to Scranton, Pa. To one who has never been in the coal regions I am sure they will convey an excellent impression of the manner in which the coal-producing lands are utilized.

Scranton is a fairly large city of 130,000 people and is chiefly noted for its coal mines, of which there are a great number. These mines extend sometimes for several miles from the breaker and veins run under parts of the city and through mountains. Quite often a vein runs almost to the surface and frequently the ground caves in engulfing everything in sight. I have noticed curious cases where roadways were partly sunken, in some instances ten feet or more, while other parts were not affected, making a very odd sight.

In this particular section anthracite or hard coal is mined, many of the mines belonging to the D. L. & W. Railroad. To see fifty or more eighty to one hundred ton cars loaded with coal, drawn by two gigantic engines and pushed by two more serves to illustrate the immensity of the mining industry.

Quite naturally accidents are quite frequent, but much has been done by the United States Government to relieve as much as possible danger from falling walls, fire damp and explosions. In some countries when a mine

is finally worked out it is flooded and water, being practically incompressible, holds up the roof. Here, however, no such practice is followed, but I cannot say that the foreign method of flooding abandoned mines is superior.

A person standing over a mine can distinctly hear or rather feel explosions as they take place several hundred feet below. Blasting is very often necessary to loosen up large deposits of coal. The miners purchase their own powder from the company stores, as well as other necessary articles. Different methods are followed in different districts, but on the whole there is a marked similarity in all things pertaining to mines and mining.

Considering the value of the deposits in the coal belts the powers that control the land sell only surface rights, therefore if your house falls into a pretty hole in the evening you'll find a nice muddle of trouble getting any damages. I remember one case of a cemetery deciding to change its location and also one of a cow found thirty feet below ground, it having dropped through a rift in the surface.

Underground concrete stables as fine as any above ground house the animals who draw the small coal cars. Many of these beasts never see the light of day after once going down, while some are kept below from birth. It is a strange sight indeed to see how readily those animals who are housed above ground, go down the steep,



Approaching Scranton, Pa.

No. 1. Facilities for transporting coal.

No. 2. Coal Breaker in Luzerne, Scranton.

No. 3. Looking towards High Park, Scranton.

No. 4. Looking towards Spruce Street, Scranton.

shored, narrow incline. In some mines large cages similar to an elevator raise the miners, while coal cars used in others are drawn up a long inclined plane by fives and sixes, each car holding from three to five tons.

Miners and breaker boys are very interesting people, even though they are mostly coal black from the day's work. The boys employed in the various breakers to pick slate average about fifteen years of age, although from a casual glance many seem much younger. The law requires them to be of a certain age, but the necessity of family needs often requires them to assume years beyond their looks, which rightly interpreted means they are not as old as the law requires, but their parents need the money. Taken altogether they are a lively lot of fellows even though a good education has not been accorded them.

Miners are mostly foreigners and many a lively battle takes place during a strike. In Pennsylvania the state constabulary generally takes care of disorder, but many serious outbreaks are on record. We have nothing in New York quite like the "Black Hus-sars," which the mounted state police are called on account of their black habit, with firearms exposed.

On account of the underground workings, buildings are, I believe, by law, restricted as to height. The latest one in Scranton at the present time is the Hotel Casey, which is situated on Lackawanna Avenue. This is the principal street of the town and leads directly up to the magnificent D. L. & W. station. The picture of Lackawanna Avenue was made from the station and is excellent in drawing,

considering the apparatus. All of the negatives were made with an ordinary 5 x 7 folding camera with a rectilinear lens.

"Looking Down Spruce Street," was taken in 1/25 sec. at f. 11 on a Cramer Iso. plate. The tall building in the center is the court house, which stands in a square surrounded by Adams and Washington Avenues and Linden and Spruce Streets.

Print No. 1 shows the railroad facilities for transporting coal.

The "Lackawanna Station" is a comparatively new structure, but my picture of it does not do it justice, although the light was poor. The marble used in the interior is exquisitely matched and for beautiful marking I have seen no equal.

"Looking Toward Town" explains itself and was taken in 1/50 sec. f. 8.

Prints Nos. 2 and 3 were made from a hill, one being taken further down. No. 3 shows good down-hill perspective and good composition even for a matter-of-fact picture. No. 2 is simply a nearer view and I think it is just what the 64 stop man would like.

The "Coal Breaker" shows how trains are loaded by running them under chutes.

The "Court House" was taken from the corner of Spruce Street and Adams Avenue, near where I was stopping. It required some deforming of the camera to get it as good as I did. The monument on the left side is the "Soldiers and Sailors" and the center one, if I remember correctly, was erected to General Sheridan.

In all cases Cramer Iso plates were used and Rodinol was used in development, the proportions being 1 to 25.



*Court House
Coal Breaker*

Lackawanna Avenue

*Lackawanna Station
Looking towards Town*

STIMULATING BUSINESS IN DULL SEASONS

BY J. CLYDE WILSON

THERE are seasons in every business when things seem to come to a virtual standstill. With the photographer they appear after the holidays—in February, March and April, that period of reaction when people endeavor to offset their extravagant Xmas expenditures by a determined and painful economy, and during the hot summer months. Sometimes the business falls away to almost nothing, even beneath the running expenses, and many a photographer has wished he could forestall this slump. This is usually difficult to do, because you cannot often make people buy when they will not. Piled up unpaid bills and an empty purse is the surest guarantee against unnecessary expenditure. On the other hand the slump which comes in the summer is perfectly natural, and is felt more or less by all business. It is the outdoor season and people find too much glory in the attractions of the seaside, the parks, and the country to find much interest in photographs and the wares of the merchant. A photographic studio, particularly of the old skylight variety, is about the hottest and most uncomfortable place in the world on a hot day, and those who have visited one once retain a none too fond recollection of the experience. So people are not naturally anxious to patronize the photographer or the merchant during the so-called "Dog-days."

On the other hand the expenses of the photographer and the merchant continue apace. The large department

stores whose daily expense account is immense, regardless of season, *have* to find some solution of this problem. They could not afford to see their accumulated profits eaten up at such an alarming rate. That is why it often happens that some of a department store's biggest business—strange to say—is accredited to off seasons. They solve the problem. They have done this by the establishment of off-season sales—bona fide sales in which genuine reductions are made in prices that there may be some incentive to buy. And the people have come to know of these sales and of the time when they will occur, and they look forward to them as seasonable opportunities to stock up on certain needs at a real saving. The foresight of the merchant is rewarded by handsome returns, for his volume of business readily offsets the reduction in prices, resulting in a quick turnover of stock, in itself a great saving. He keeps busy. Thus we have the great January white goods sales, now a fixture in nearly all dry goods stores throughout the country. We have the summer clearance sales, and other special sales. Even the great mail-order houses have not overlooked this opportunity, and it is reported that the white-goods sale of Sears Roebuck & Co. last January resulted in returns exceeding \$10,000,000, the largest returns from a single sale ever recorded. Regarded in the light of these known returns, what must have been the return from the hundreds of similar sales occurring at

the same time throughout the country? Is it not apparent that it is possible to stimulate business in dull seasons.

There are valuable suggestions to the photographer in the aggressive make-it-pay methods of these great merchants. They have had to meet this emergency and they have sought and found a way. Necessity is a hard taskmaster but it calls man's wit into play and results in his own profit. The photographer with his comparatively small expense, has not had this incentive to spur him to action, for as he says: "He can usually get along till business picks up." But if he can "get along," how much more profitable would it be to him to turn over a nice little sum of money in this lifeless, dull season. The secret of the success of these large stores in meeting these trying conditions lies in their ability to make reductions in price during a limited period. To the consumer it means "Now or never," and if you are a student of human nature you know there is a human pleasure in taking advantage of a bargain. Man delights in his own cunning in getting ahead of someone, for he has been bargaining with his fellow, and seeking an advantage, since the struggle for life began upon the globe.

To conduct these sales successfully the merchant has to resort to advertising. There seems to be a misconception among photographers as to the value of advertising. There seems to be a question as to whether it pays. The right kind of advertising always pays, for advertising is nothing more or less than telling people that you make something they want—letting them know you are in business and

anxious to serve them. These merchants who succeed in making dull seasons profitable never cease to advertise, for it is their business to keep people apprised of their sales so they may take advantage of them. Some photographers have tried to utilize the bargain method to stimulate business, and if they are handling a popular line of medium or low priced photographs, and have a central accessible location, they have often been very successful. They will advertise a special sale of photographs at a low price, say \$1.98 per dozen, for Saturday only, or for one week only. But to be successful such a sale must be *well advertised*. It will not do to stick an announcement in the show-case and let it go at that. It *has* to be advertised, preferably for some time ahead, in the papers, or by letter. I would warn the high-grade studio against this method. It is a commercial method, entirely legitimate for a strictly commercial product, turned out on a quantity basis, but ill-suited to the needs of the artist. And don't forget that every good photographer in the eyes of the public is regarded as something of an artist. They do not expect or want him to stoop beneath their ideal of him. The photographer who has capitalized his personality and prides himself on the individuality of his work and its excellence is invariably accepted at his own estimate by the public. And these methods would only give him bad advertising by cheapening him in their eyes—reducing himself to the plane of a lay merchant. But for the studio which sells low-priced work—good work—and depends on the quantity of work it turns out at a standard low



*TROUT FISHING THROUGH THE ICE
BOUNDARY LAKE, ALGONQUIN, CANADA*

R. R. Sallows

price for its profit this method is entirely practical, within reasonable bounds.

A few years ago the manager of a photographic studio in a large department store put a small notice in his small allotment of space in the store's newspaper advertisement, announcing that a certain day had been set aside at their studio as "baby day." On that day, the ad. stated, every baby brought to the studio would be photographed free of charge and one picture presented to the fond parent. A special reduction in price would be made to purchasers of one dozen or more pictures. The notice was so small the photographers did not expect much of a response, but somehow that ad. seemed to have been read by every parent who took the paper. When the doors of the studio were opened for business that morning, the place was literally besieged with fond mothers and their bawling offspring. It took a half dozen or more photographers to handle the business that day and over 500 youngsters were snapped. Needless to say, swamped by this unexpected response, the photographers found they had more than their hands full. As a result a large proportion of these pictures were not successful. But the dozens of orders which resulted from the successful ones quite easily offset any losses from this cause. It is apparent, however, that a plan of this sort, if it could really be considered successful at all, could only be used to advantage in a large city. The unsuccessful results must create dissatisfied customers, to raise hob with the studio's reputation. In a large city this is less likely to

occur, and the constantly shifting population soon forgets. But in the small place it never does. This department store has never tried the experiment since, and in this particular shape, it is not to be commended. The idea is suggestive however and brings to mind plans that would not possess its drawbacks while losing none of its drawing power. What of the possibilities of a baby contest, for instance? Mother-love, and pride in the offspring is an all-powerful force. Duly advertised, a baby contest would undoubtedly bring a liberal response, and in a small city create considerable interest and attention in the community. The papers are eager to capitalize any chance to increase their own popularity and would grant considerable publicity to a matter of such universal public sympathy. The decision in the contest could be relegated to a few prominent citizens or politicians, who usually relish the limelight, and thus the photographer could gracefully shift the responsibility for any argument that arose over the decision. A silver loving cup would be a cheap price for such excellent publicity and the orders would easily pay for that and leave a handsome margin beside.

The story is told of a well-known artist photographer who had struggled for years to get a satisfactory start without much success. He was just about "to give up the ghost" and acknowledge defeat, when a friend, who appreciated his great talent, took him in hand and gave him a lift. The first thing he did was to have the photographer get up a portfolio of his finest work, beautifully finished, as good as he knew how to make it.

Armed with this evidence of his skill he was introduced to some of the members of a prominent club in his city. He offered to make for this club a beautiful portfolio of photographs of its members just like the one he was showing them, and present it to the club, absolutely free. It looked like a fool's madness, but the club readily agreed to the plan. The offer was accepted. By this means the photographer was enabled to meet all the prominent men of his city and to make a picture of them. They quickly appreciated his talents, and patronized him, placing large expensive orders from the negatives made for the album pictures. Without loss of dignity this photographer was introduced to a profitable clientele, and laid the foundation for his subsequent fame. To-day he is the most successful photographer in his city and one of the most famous in the country. There is no limit to the possibilities of this plan, and it is limited to no class or season.

A photographer in a Western city runs a small quarter page ad. in the theater programs of the city, the ad. taking the form of a coupon which allows the holder a \$1.00 reduction on any order exceeding \$5.00 in amount. This evidently brings in business for the photographer for it has become a fixture in the program. A somewhat better idea is that in use by a jeweler in another Western city, but equally satisfactory for use by a photographer. This jeweler supplies to the leading "movie" houses of the city small programs that are distributed to the patrons of the theaters. One half of the single sheet upon which the program is printed is occupied with the

theater's bill, the balance is filled with the jeweler's ad. The jeweler pays for the programs and they are distributed free by the theaters, with gratitude. The photographer would have exclusive space here, and very valuable space, too, for a very small expenditure. This is a splendid advertising possibility for dull seasons, or any seasons, and its cost is very little.

During the summer months most people take considerable pride in their door-yard gardens. A letter addressed to your mailing list calling attention to the beauty of outdoor pictures of gardens, with the family gathered under the favored tree, the children at play, and perhaps grandma and grandfather present in their favorite chair. What an appeal to sentiment that is! Surely that ought to be suggestive and bring summer business. How much would you yourself give for just such a natural picture of your own parents in their declining years? And your patrons are not less human in their sympathies than you. Such pictures should be handled carefully and finished in your best manner. If sold at good prices they are the more valued and duplicate orders will be sought. Home-coming celebrations offer unusual opportunities of this sort with the many family reunions. The photographer should be well prepared for these events by liberal advertising beforehand.

Home portraits are still a novelty and they are year around possibilities. Summer is as good as winter for this work, perhaps better, and the graceful and out of ordinary effects that are possible give it an unusual sales value.

Moreover, it does not seem so out of dignity to solicit this work at people's homes, and in this enlightened day it is the fellow who goes out after the business and doesn't wait for it to come to him, who rides around in automobiles. Creative salesmanship is the kind that gets business where none would have been forthcoming, and home-portraitists everywhere are finding that it pays.

The time-worn idea of presenting an enlargement as a premium with each sitting during the dull seasons has been so overworked that it has lost much of its original value. A well-known Michigan photographer who employs a colorist has hit upon an excellent variation of this plan. During off-seasons he fills his large show window with 5 x 7 sepia plat. vignetted prints exquisitely colored. A sign informs the passerby that one print is made for \$1.50. Of course a sitting is just as necessary for the production of one print as for a dozen. Not being busy the photographer has the time to put forth his best efforts to make the

sitting highly successful. How many patrons do you suppose would be satisfied with one print from a real good sitting? The result is the photographer's speculation on results gets orders. Where the dozen is ordered the colored print is given gratis as a premium.

These are but a few ideas that will suggest variations to the resourceful photographer in creating more business at trying times. The photographer is fortunate in a calling which finds uses in every walk of life. Its appeal is universal, and its importance is coming to be felt more and more by those who have been accustomed to look upon it as an entirely useless luxury. For photography links us with the past, and puts us in touch with the new. It gives to the passing show a certain immortality, putting into imperishable form those experiences in life that have warmed the heart or awakened our interest or curiosity. What other business touches deeper interests in the human family?

THE PLEASURES AND FINANCIAL OPPORTUNITIES OF MOTION PHOTOGRAPHY

BY CHARLES I. REID

THE marvellous and universal popularity of motion pictures opens a fascinating and attractive field for the work of photographers, both amateur and professional. Since the advent of motion picture cameras selling at moderate prices scores of photographers are taking up this new field of pleasure and profit

with very gratifying results. To be able to record familiar scenes in motion pictures has long been considered a remote and expensive possibility by the amateur, but since cameras can now be bought at prices corresponding with those of good still cameras many amateurs are recording in motion pictures familiar scenes and happenings.

The pleasures of the work are increased by the financial results obtained, which are practically unlimited

One cannot imagine anything that would be more interesting in later years than to see in motion pictures the different members of the family, and to see in motion events that would otherwise grow dim in the memory. Such records are now easy to make and would be well worth a lot of effort.

Anybody with a little experience in still photography can soon master the operation of the motion picture camera, the basic principles being practically the same as in still photography. In fact, the motion picture camera may be compared to a roll film camera with the addition of a device for automatically shifting the film after each exposure. There are several makes of motion picture cameras selling at very reasonable prices, all of them practical instruments suitable for amateur and professional use. Besides slight differences in methods of operation they all work on the same principle and with the same type of intermittent movement, usually known as the claw movement, which has been found the best type for the camera mechanism. The lens used for motion picture photography is usually an anastigmat of two or three inches focal length and working at F. 3.5, which will allow of exposures being made in dull light and even indoors. On account of the short focal length of the lens employed it can be used wide open in most cases, thus allowing of very short exposures.

A motion picture camera and a little work will make the amateurs' holiday

profitable, while the professional will find many profitable fields for his work. Local scenes always prove very interesting when shown in motion pictures, both to the photographer and the other residents in the town, and local theatres are glad to pay good prices for such films. Any local celebration will draw big crowds when shown in motion pictures at a local theatre and the photographer always obtains very good prices for such films. In a small town one can film all the local schools and scholars and also the factories and other industries. These, together with street scenes at a busy hour of the day and prominent people of the town are all interesting, and will draw good audiences when advertised by a local theatre.

The whole field of educational and trick film production is open to any photographer with a little imagination and the ability to inject a popular interest into his pictures. Natural history and other nature films make a popular appeal and such negatives always bring very good prices when sold to a manufacturer of motion pictures. One amateur who spent three years in preparing films showing the life of the honey bee has realized over \$10,000 for his efforts. The preparation of such films is very interesting, and anybody who loves to study animal and insect life can produce films that will command very good prices. The usual prices paid by producers for such negatives is from \$3.00 to \$5.00 per foot.

The field of trick films is also very alluring and very profitable to those who can produce interesting and original effects. The number of tricks

possible to produce with a motion picture camera is practically unlimited and really original effects always make a popular appeal. In this work the amateur has the advantage over the professional producer, as the latter often tires of the subject before it is finished, with the result that the interest is not sustained. Trick films often require months to produce, which is the reason producing companies seldom attempt trick pictures, the cost of production being too great. The amateur, on the other hand, can utilize spare moments, and if his production has an element of popular interest the resulting negative will command very good prices.

Since the advent of the weekly films of current events many amateur and professional film photographers are obtaining profitable returns from negatives of current happenings. Any negatives that are of popular interest will bring very good prices, the usual rates being fifty cents to five dollars per foot. In this work promptness is of great importance and the negative should be shipped to the manufacturer

as soon as possible after the event. It is quite possible to have a negative finished within an hour if one has a good drying arrangement. Usually the film is left on the developing frames and quickly dried by directing the blast from an electric fan on all parts of the film. One cannot use alcohol or any of the drying solutions used for plates, as these would dissolve the celluloid base. Publishers of animated news films extend every courtesy to the amateur film photographer as any firm engaged in supplying news films cannot hope to succeed without amateur assistance. No matter how widely they distribute salaried photographers, events are constantly happening out of reach of the retained photographer.

Theatre goers are beginning to appreciate the educational, scientific and news films and this will put the industry more into the hands of the photographer instead of the stage manager, as at present. Thus motion picture photography will offer ever increasing opportunities to really competent film photographers.

GUMPTION FOR THE AMATEUR

BY C. B. PARKS.

IN so many of the questions and answers of the photographic magazines of to-day the leading question seems to be just simple things that would be better understood and better remembered if thought out and answered by the questioner himself.

I am an ardent reader of the leading magazines of this class, and of the last

issues at least 75% of the queries are of this kind.

The very first essential of good photography is not the lens, nor the shutter, or the kind of paper or plates to use, but is just plain, matter-of-fact *gumption*. Though the finest lens is used and the very best paper and plates, unless a little *gumption* is used



THE CEDARS

A. M. Clay

with each step, the result will be far from satisfactory.

This statement is based first on my own expensive experiments, which were made with every other essential for a fine picture except gumpion, secondly, from watching others, and last but by no means least by the foolish questions asked of a busy editor.

One little instance came under my observation just a few days ago. My partner has a very beautiful foot, of which he is some vain. About two years ago he began kodaking; he and another friend were in a park at a spring one day, and the friend "snapped" him while he was drinking. When the picture was finished there was my friend's foot all poked out of focus and as big as both of his feet put together. He was sore about it and wanted to destroy the film. Well, you would think he would have more gumpion than to make the same mistake again, wouldn't you? Yet four times to my certain knowledge he has done worse, but he really capped the climax last week. He had a very important order to take a school picture. He seated the eight smallest children in front, flat on the ground with their feet sticking straight out in front of them! He broke the negative to smithereens and made the picture over again. But that negative alone cost 15 cents, and the camera was a big 8 x 10 and had to be carried about a mile, but that was not the worst of it. The children were told a week in advance about the first picture and every one for miles around were in the picture. He developed the negative, saw the feet, got in a temper and broke it, and then bolted back the next

day, to re-snap, and there were only the school children in the last picture. In the first picture were forty-three possible purchasers, in the last there were only nineteen children in the every day garb of overalls and cotton checked aprons, which they don't mind wearing anywhere outside of a picture. Three pictures were sold.

My friend blames the people. It has been in vain to explain that it was a case of lack of gumpion.

I loaned my 4 x 5 to a friend who intended moving from the city the next day. He had sold a hound and her pups and wanted to have her picture. Out of four negatives only one was focused anywhere near right, and the main object of the picture could almost be made on a postage stamp. And look at the rest of the "scenery!" I told him to keep mum about the hound and pups, label it "Moving Day," and he'd have a near-genre.

Another case where a little gumpion would have resulted in a valuable picture. (To him, at least.) As it was, the dogs were taken away that very day and my friend lost his opportunity.

And, oh, how many of us stand our poor subjects in the sun—but doesn't our good guide books tell us to "have the sun at our backs?"—and get a picture with no eyes but a thousand wrinkles instead?

Or put them in the shade of some beautiful tree and have them all splotched up with shadows and sunshine?

One day, while seated in a park, watching the "snappers" go snapping by, I chanced to see a "snapper" friend.

She and another girl were having a splendiferous time, so I joined them. And right there in that park and with these two girls as teachers, I learned two facts—one of which has saved me many a dollar and given me some fine pictures, three of which took first prize in a large contest. I learned why there was such “good money” in handling kodak supplies and how much gumption amounted to in photography. Their kodak was a very fine one with anastigmat lens with a twelve exposure roll. I called around the next week to see results, for I acknowledge I was very curious concerning these pictures, for I had seen how very little thought or purpose was in the taking of them. Two pictures were very proudly exhibited.

“Now you see, even an amateur can make good pictures,” said one of the girls.

“These pictures prove to me that the days of miracles are not past. For nothing short of a miracle could have developed a good picture from the way they were snapped. But let’s see the others,” I replied.

After a great deal of persuading the other pictures were shown, and as I had expected, not a one of them was even “passable”—some of the people had no feet, one that would have been splendid had only part of a head. We had admired a giant tree, so one of them had snapped it, and the result looked like the picture of a piece of bark.

“I want just as large a picture of that tree as I can get,” she had said, and snapped it about ten feet from the trunk, and the resultant picture was a

few feet of tree trunk the full width of the picture.

My afternoon had not been wasted, though, for since then I always, before snapping, ask myself: “Am I using gumption?”

So much for gumption before exposure.

Now, suppose the negative has been successfully exposed, then comes the development of negative.

How often we read in “Questions and Answers:” “Please tell me what is the matter with this negative. I used the makers’ formula, taking care that the chemicals were fresh. I have no thermometer so could not tell what temperature the solution was.” Another lack of gumption. Why, oh, why, didn’t the distressed one take the money wasted for stamps to send the negative and buy a thermometer?

Here’s another recent query: “What is the matter with this negative? The object was 3 ft. 4 inches from camera, a telephoto lens being used with the regular lens.” Would not a little thought tell anyone what was the trouble?

Always when using any lens in connection with the regular lens, focus *after* putting the extra lens in place.

Now to let you know my photographic gumption was not always in evidence, I’ll tell a few instances where it was altogether lacking.

One of the first pictures I ever made was on “wash-day” at our house. There was a beautiful beach tree in our back yard, and I wanted my sister’s picture standing under that tree. As I said before it was wash-day and rows and rows of nice, clean clothes were waving their white banners of cleanli-

ness in the air. I posed my sister beautifully, with a far-off look in her eyes—she was to represent youthful days—and “fired away.”

I didn't know there were as many clothes in the world as was on that picture, and every unmentionable in the family waved gayly over my sister's pretty head! For several years every time any of the family wanted clothes, I would exclaim, surprisedly: “Goodness knows! where are all those clothes that were hanging on the line at the time I took sister's picture?”

Then there was the time I focused nicely with the intention of making a 4 x 5 picture of a baby's head. *After* focusing, I put on the portrait auxiliary lens. Of course the result will not bear talking about.

One time I was to take a picture of a very tall fellow. I held my kodak at an angle of about 45 degrees, a-slanting upward. That picture was a beauty.

The most puzzled I ever was, and the nearest I ever came to questioning an obliging editor, was just after we moved to another county. Up till this, I had worked out my own salvation, reasoning that learning by my own mistakes I would always remember just what the trouble was, but by working on somebody else's say so, I would (perhaps) still have to do the stunt over again to satisfy myself.

For several months I had made no picture without spotting out a million pinholes (if there had been *two* millions I would not have hesitated to have said so, for I believe in being as near accurate as possible).

These pinholes were not the ordinary pinholes I had wrestled with in the past, but would begin and end like a flying comet, and they flew clear across the negative. I just kept making pictures and I tried every known thing for these devilish pinholes, boiling the water, using fresh, pure chemicals, etc. I even tried a few remedies of my own make-up—all without result.

One day several visitors and myself were at the spring talking of the beauties and wealth of this particular county, when one of the men picked up a rock and said:

“Look at that. Almost 60% iron”—before he could proceed, I shouted:

“Iron! By jenkins, that is what has been the matter with my negatives.” And so it proved, for I bottled rain water, and cooled it in the spring just before using, and had no more trouble from that direction.

So I am sure the rankest amateur need never ask a tenth of the questions they do ask, thereby fooling away the valuable time of an editor, wasting stamps and paper, to say nothing of their own time, if they used a little GUMPTION.

Mistakes are not only unavoidable, but are very valuable when we are taught the better way.

Mistakes are only stepping stones to better photography. A wise photographer may make a mistake sometimes, but only a fool repeats it.

The answer to “how can I improve and make better photos,” is:

“USE A LITTLE GUMPTION!”



ON many occasions we have been aware of the well-focussed negatives of beginners; and upon investigation we have, with hardly an exception, found that the apparatus was of the simplest kind—no focussing arrangement, only one or two stops, and only one shutter speed. With the modern short-focus lenses, good focus is readily secured under a great variety of conditions without any adjustment, and the depth obtainable is sufficient for most subjects without any alteration of aperture.

Early success is necessary to whet the appetite of the beginner, and we know many to be quite disheartened by a long series of failures with unsuitable cameras which they did not understand and could not properly use.

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TIME and again we have heard it said that photography was not an art, that it was not creative, nor did it allow a worker an opportunity to use his imagination.

Probably in the strict sense of the word photography is not art, and imagination does not enter into the production of a good picture, but we do believe that photography is creative in the sense that it will create a desire for the beautiful in the minds of all who take up photography; it is not the copying of the visible only that

spurs one on, it is the desire to see and record with the camera each beautiful view or object that opens up many a dormant artistic nature.

It is realism at first, after which creative and imaginative ideas are formulated.

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LANDSCAPES seem to be the most popular outlet for the advanced amateur's energies; whether it be the unbounded choice of subjects or the desire to get close to Mother Nature in her various moods, we hazard not a guess, but it is to be regretted that the majority of amateurs do not consider the definite rules of artistic composition in reproducing some charming bit of woodland or field or brookside. The trouble with most landscapes of an amateur's conception is that altogether too much is shown, too much has been crowded into a space not sufficiently large enough to give it balance, and which detracts from the other good points of the picture. In the selection of subject the amateur must always bear in mind that the lens cannot roam around as the eye and take in all the surroundings which tend to make a very beautiful picture. The lens is limited to only that which is directly in front. Unless the photographer sets out with some definite ideas re-

garding the producing of pictorial landscapes, he is not apt to attain anything of especial value, except by some lucky chance.

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IN a recent number of the *British Journal of Photography* we note the following, which words of caution may be well considered:

"It is a remark often made that whenever a negative is reproduced there is a loss of quality which is unavoidable. It is true many enlarged negatives—and this is what the reproduction of a negative generally means—have a harshness, and 'reproduced quality' which are displeasing, but we believe that in most cases this is primarily due to over-development, possibly following under-exposure, and is not a defect inherent in the reproduc-

tion process. The tendency with large negatives is always to over-development, for curiously a big negative looks flat when normally developed, while a small plate looks quite vigorous. The safe way, therefore, of developing enlarged transparencies or negatives is to use the time and temperature method or to work by factor. Where a contact transparency is made clear glass should be avoided, and it is almost impossible to get the positive too soft, especially if oil or incandescent gas is the illuminant used in the enlarger. Where the original negative is somewhat strong in contrast the use of a carbon transparency is a great advantage, for any flattening of the shadows due to over-exposing them in an endeavor to secure gradation in the high lights is avoided."



Will C. Helwig



SEEING IN THE DARK-ROOM.

It will be found much easier to see what one is about in the dark-room if the lamp is so screened off that the direct rays from it never strikes the eyes. It is the dazzling effect of the unscreened light which makes it necessary for the photographer to work with his dish close under the dark-room lamp, a course which then gives rise to fogging of the plate. If the lamp is placed high up overhead with a shelf of some kind beneath it to prevent the light from falling directly upon the dish when development is in hand, the whole room may be comfortably illuminated by quite a powerful light without fear of fogging the plate, while the lamp being beyond the ordinary range of the eyes, there is no chance of them being at all dazzled. When work has to be done by a very weak light indeed, as may be necessary in color photography with panchromatic plates, the photographer should not attempt to start operations as soon as the room has been darkened, but should allow a few minutes to elapse. He will then find it possible to see quite comfortably in a light which at first seemed little removed from darkness. For the same reason it is well not to remove the screen from the lamp, or to expose the eyes to white light unless actual dark-room work is over for the time being, so as to do away with the necessity for a further wait while getting accustomed to the dim illumination a second time.

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Printing frames that have not been used for some time should be examined for warping before entrusting a valuable negative to them. A very slight bend in the frame may cause the negative to crack, not necessarily when the frame is being loaded,

but at some time during the printing. When the plate is put into the frame, its corners should be touched in succession to make sure it does not wobble. If it does, there is risk of breakage. A warped frame is best broken up or burnt forthwith, so that its career of destruction may be closed at once.

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TO WASH PRINTS QUICKLY.

It may not be so well known as it deserves to be that the hypo can be removed much more quickly from prints than is possible in the ordinary way, if the prints after each change are laid in a mass upon a stout sheet of plate glass and the liquid is squeezed well out of them by rolling with a roller squeegee. They are then picked up and immersed singly in fresh water, and after a minute or two are squeegeed again, and so on. Six changes of this kind, if followed by squeegeeing, will remove all the hypo that is at all readily removable and constitute an effective washing. The pressure when squeegeeing may be anything short of what is likely to bruise or tear the prints.

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DRYING A NEGATIVE.

When a negative is put up to dry, all the water in it has to be evaporated. The more there is, the longer will the operation take. To reduce the time to a minimum, without having resort to artificial drying methods, which are always best avoided, it should be made quite dry on the glass side and edges. Then with a clean smoothly-folded handkerchief, the surface of the film should be wiped free from all surface water with a few long strokes. If it is then put up to dry; it will be found that the time required has been shortened by one-half or

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even more. If the wiping does not start at an edge, where there would be a danger of the film being caught up and pulled from the glass, and if the handkerchief is quite smooth, there is no fear of injury, unless the photographer is very clumsy.

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Permanency is a quality involving the time element, *i. e.*, time only can tell us what will and what will not stand. We cannot apply a concentrated essence of time to a print. All one can do is to guess on the basis of probable chemical actions and atmospheric conditions. We see no reason why a carefully made self-toning print, properly fixed and washed, should not keep as long and as well as an ordinary toned P.O.P. under similar conditions. There is, however, one point of difference: in a self-toning print we have no control over the quantity of gold used in the toning of the image, but in a separate-bath toned P.O.P. we can tone as fully as we please, and the more gold in the print—other things being the same—the longer the print ought—from chemical reasons—to last.

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A cause of failure in enlarging, copying, etc., which is sometimes unsuspected is vibration. Most boarded floors are very springy, and when the subject and the camera are separately supported enough vibration to cause serious blurring may be brought about merely by walking across the room during the exposure. It is well, as far as possible, to mount both the camera and the object on a board, as this in itself reduces the chance of trouble. In these days of motor 'buses and other heavy traffic, however, this may not be sufficient. The photographer may borrow a device from the photo-engraver, and sling his copying board from the ceiling or roof by stout cords at each end, the cords having a foot or two of strong rubber interposed to absorb any vibration communicated to the cords and prevent it from reaching the board.

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Local control when printing by artificial light can be obtained in many ways. When one end of a negative is thin and the other

dense, the fault can be made almost unnoticeable by putting the frame at an angle to the light, so that the dense end of the negative is much nearer than the thin end. When the frame is comparatively near the light, say within five or six inches, the difference in the illumination of the two ends which can be obtained in this way is very great. It is quite easy to give one end of a half-plate negative three times the exposure of the other, while the exposure of the intervening portion is smoothly graduated. In other cases a strip of cardboard may be used to shade part of the negative, or a card with a hole in the center of it may be employed, according to the nature of the area which is to receive a modified exposure.

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When a negative has been developed and fixed, and one would like to make just a rough proof from it as quickly as possible, in order to see how far it is a success, it can be done without drying. The negative should be left film upwards, under the tap with a gentle stream of water flowing over its surface for at least three minutes. Then, in the dark-room, a piece of bromide paper may be allowed to soak in clean cold water for a minute, previously marking the back of the paper with pencil to distinguish it. The limp paper is squeezed to the film of the wet negative, the glass side is wiped, and an exposure made just in the ordinary way, and developed. The negative may then have its washing completed as usual.

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A LARGE PRINTING FRAME.

Every photographer should have at least one printing frame a size or two larger than the size of negative he makes. This frame may be provided with a piece of plain glass, and a piece of thin card on the glass, with an opening in it to take the negative. One sometimes gets a plate in which the picture goes right up to the very edge almost, and unless it is printed in such a frame, it is almost sure to be necessary to trim down the print more than one would wish, to get rid of any uneven printing caused by the edge of the frame itself.

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TO CUT CIRCULAR MASKS.

If a pair of compasses is purchased, the pen with which it is fitted can be converted into a tool for cutting circles out of paper, which will be found very suitable for circular masks. One blade of the pen must be removed altogether, and the other should have its edge, just at the point, sharpened until it is as keen as a razor. Then a piece of thin black paper having been fastened down to a board or sheet of linoleum, with drawing pins at all four corners, a circle of the size desired can be cut quite easily with the compasses. It will be found necessary to fasten the paper down, or there will be a great likelihood of it tearing as the cut is made. The hole in the center made by the compasses can be blocked up with a scrap of lantern-slide binding strip if the disc as well as the mask is to be used.



A DARK-ROOM CONVENIENCE.

Three or four wooden penholders fixed vertically into one of the shelves of the dark-room will be found to be a very great convenience. Measuring glass and bottles, etc., after being washed out, may be put upside down on one of the pegs so formed to drain and dry, and left like that until they are required, instead of standing the other way up and catching any dust or splashes that may be going.



Squeegeeing prints to glass or ferrotype seems to provide pitfalls enough for some workers, though others never have any trouble at all, at least from prints sticking. If, after the washing of the prints is finished, they are placed wet as they are in a bath of one part of formalin to nine of water for five minutes or so, and then allowed to dry, and re-wetted to squeegee them, sticking will be unknown.



Plates and all other sensitive products should be kept where there is no fear of them being exposed to the vapors given off by sodium sulphide or kindred sulphur toning compounds.

DRYING NEGATIVES, AND THE AVOIDANCE OF DRYING MARKS.

Most instructions as to the production of negatives end with the washing after fixing; the drying of the negative apparently calling for no remarks. Yet there is a good deal that may be written on drying negatives, which the inexperienced worker at least will find very much to the point. It is not possible at that stage to turn a poor negative into a good one; but it is remarkably easy to turn a good negative into a poor one; and a knowledge of how this can be done will be found useful as pointing out what *not* to do, when a negative is to be dried.

Heat must not be used for drying a gelatine plate, unless the gelatine has been exposed to some hardening process, to prevent it from melting. This hardening is not wise to employ, except in certain emergencies which need not concern us at the moment. Warmth, strictly in moderation, is helpful. Such warmth, for example, as one gets in an ordinary living-room. It is helpful not merely to the photographer who is in a hurry to get his negative dry and printed; but also in another way.

It is always well to get the gelatine film of a negative dry in as little time as possible, bearing in mind that it should dry more or less spontaneously. It is while it is wet that it is most easily injured, not only because any dirt settling on it adheres, but also because the wet gelatine tends to decompose. Therefore it is well to get this stage over, without loss of time.

By placing the plates vertically to dry, or, if they are tilted a little, by seeing that it is the gelatine side which is underneath, dust is prevented from settling on the film; at least to a great extent. If they are so placed that a current of warm air passes over the surface, the drying will be most rapid. They must not be left close together in a plate-draining rack, as this makes drying a very slow operation. One of the best places for very rapid drying is on the mantelpiece in a room where a fire is burning, the plate being vertical or almost vertical, with its coated side outwards and almost in a line with the edge of the man-

telpiece. The warm air rising past it will dry it very quickly.

If we look at a negative which is half dry, we cannot fail to notice that there is a difference of density between the dry and the wet part. This difference may be perpetuated and the negative completely ruined, if the rate at which the plate is dried has altered during the operation. If, for example, about half of it is allowed to dry very slowly, and then it is placed where the drying can finish quickly, there will be a difference of density between the two parts and a dividing line which will form an ugly mark on the print.

One other matter may be mentioned. If a wet negative is placed upon its edge on a dusty surface, it will be found that the dust will ascend the film, being carried upwards, and will dry on it. The moral here is obvious.—T. L. P., in *Photography*.

★ ★ ★

MOUNTING PRINTS ON WOOD.

For certain purposes it will be found very effective to mount a print not on a card but on a wooden panel, a well-toned silver print being as suitable as anything for this process, although some excellent results may be obtained by a judicious selection of carbon tissues. The panel should be finished dead smooth with fine glass-paper, and may then be stained, if this is thought to be necessary. Any of the ordinary mountants may be used; but glue made not with the ordinary glue but with the white gelatine sold by oilmen, used very thin and very hot, is perhaps the best of all. It will be found a wise precaution against warping to glue a waste print on the back of the panel in exactly the same way as the other print is glued on the face. When the glue is quite dry, either the print may be left as it is, or the whole front, picture and wood, may be varnished. If this is to be done, it should first be sized, for which purpose the glue, thinned down, will serve. It should be just warm enough to be liquid. When this is dry, one or more coats of white hard or of oak varnish may be given. Prints mounted in this way can be washed with a wet cloth, and need no glass in front of them. The varnish also helps to enrich the shadows and gives them depth.

TRIMMING FILMS.

Every photographer suffers from the print-begging friend who wants innumerable copies of holiday snapshots in which he or she does or does not figure. The printing of these, if they are to be worthy of the reluctant giver, takes no small amount of the time which the ordinary man can give up to his hobby; and it is worth while seriously considering ways of saving not only time but also expense. I, personally, take most of my holiday pictures on films; and, when it came to printing, I used to spend I should be sorry to say how long in adjusting masks and paper so as to secure reasonably neat prints for presentation purposes. Even so, in spite of exercising the greatest care, the results were often unsatisfactory, and the cutting knife had to be requisitioned to straighten margins, or even remove them altogether. Now I have abandoned masks except on rare occasions. Instead, I trim my film negatives themselves, thus producing prints with a black border, which in ninety-nine cases out of a hundred is far more effective than a staring white line. Of course, it is necessary to exercise care in trimming the film, as, if too much is taken off, a mistake cannot subsequently be rectified; but if a print is first taken and experiments are tried on that, no difficulty need be anticipated. Far more suitable proportions can be obtained for each particular picture than when stock masks are used. In the actual printing it will be found extremely easy to "center" the negative correctly, while one or more small photographs can often be grouped effectively on a single postcard.

★ ★ ★

OLD RAZOR BLADES.

In these days of safety razors there is little difficulty in obtaining a supply of used blades, even if one does not use a razor oneself; and there can be no doubt that they make the finest cutters in existence for trimming prints. Even a blunt razor is far sharper than a sharp knife; and all that is necessary is to purchase one of the holders used for stropping safety blades, and to cease to worry further about cutting troubles.



[Officials and other members of Camera Clubs are cordially invited to contribute to this department items of interest concerning their clubs.—THE EDITORS.]

At the meeting of the Executive Committee of the Photographers' Association of America held in Indianapolis, the date for the Annual Convention was fixed July 19 to 24. The Committee is now arranging lectures and demonstrations by eminent men in the photographic and kindred crafts.

★ ★ ★

The Photographers' Association of the Cincinnati Chamber of Commerce adopted rules, organized and elected officers February 5th. The Committee on Postal Efficiency have been requested to urge the support of the pending national legislation regarding the right to mail photographs at parcel post rates.

★ ★ ★

Four State associations of photographers have amalgamated and will be known hereafter as the Missouri Valley Photographers' Association. The new association comprises the former State associations of Missouri, Iowa, Nebraska and Kansas. The 1915 convention will meet in Kansas City, Mo., in Convention Hall, September 7-10th. The officers of the new association are:

Homer T. Harden, President, Wichita, Kans.

Chas. D. Pierce, Vice-President, Ottumwa, Iowa.

L. S. Kucker, Secretary, Springfield, Mo.

Alva C. Townsend, Treasurer, Lincoln, Neb.

★ ★ ★

The Ninth Annual Exhibition of the Montreal A. A. Assn. Camera Club of Montreal, Canada, will be in the Association Building, 250 Peel Street, from March 29 to April 3rd inclusive.

RULES.—Exhibits must be delivered, carriage paid to the Secretary, 250 Peel Street, Montreal, on or before the 12th of March, 1915, and the entry form, properly filled out, must be mailed separately, to reach him before that date.

Exhibits from points outside Canada must be sent by post, thus avoiding Customs formalities, in receiving and returning.

No fee is charged for entrance.

Pictures must be mounted, but may be framed if desired. Each must bear on the back, the title, the Exhibitor's name and address, and club, if any, to which he or she belongs.

All pictures must be the *bona fide* production of the exhibitor.

JUDGING.—The Jury of Award will consist of three competent and disinterested persons. Their decision shall be final.

All entries shall pass before the Jury, who, however, reserve the right to make a selection of the best work.

CLASSES.—The Exhibition will be divided into five classes as follows:

Open to all Amateur Photographers:

Class A.—Figure Studies.

Class B.—Landscapes.

Class C.—Waterscapes.

Class D.—Genre.

Open to Members of the M. A. A. A. Camera Club:

Green Class.—Confined to members who have not previously gained an award in any photographic exhibition.

AWARDS.—In Class A.—One Silver and Bronze Plaque.

In Class B.—One Silver and one Bronze Plaque.

In Class C.—One Silver and one Bronze Plaque.

In Class D.—One Silver and one Bronze Plaque.

In Green Class.—One Bronze Plaque.

No picture shall be awarded more than one prize.

No picture which has gained an award in any previous competition of the Club, will be eligible for a prize or certificate.

CERTIFICATES.—For such work as the Jury consider worthy of honorable mention, Certificates will be issued.

Due care will be taken of all exhibits, but the Club cannot assume any responsibility for loss of, or damage to them.

Exhibits will be returned as soon as possible after the exhibition, provided a sufficient amount is enclosed to cover return postage.

Entry forms will be mailed on request.

F. CALCUTT, *Secretary*.

☆ ☆ ☆

HIS TAKING WAY.

Some time ago, a police officer named Mike had two or three arrests to his credit, and on the following morning he appeared in the Magistrate's court to make the usual complaints.

"And this man here, officer," said the magistrate, finally getting down to a certain party, "what is the charge against him?"

"Shure your Honor," was the rather surprising reply of Mike, "he's a camera fiend of the worrust koind."

"A camera fiend!" hastily rejoined the magistrate. "You shouldn't arrest a man simply because he has a mania for taking pictures."

"Begorra, an' he wasn't takin' pictures, yer honor," declared the officer. "He was takin' cameras."

☆ ☆ ☆

A POPULAR PROCESS.

He had just given her a check for her first monthly allowance.

"I think," she said coyly, "I shall have this photographed."

"To preserve as a memento?" he asked.

"No; so I can have it enlarged."—*New York World*.

☆ ☆ ☆

THE DANGERS OF PHOTOGRAPHY.

"Oh, by the way, dear," said the husband as he was preparing to leave the house in the morning, "I may develop some plates at the camera club to-night. If I find I can't be home to dinner, I will send a note by messenger."

"Don't trouble," said the wife, sweetly, "I've just read it on the blotting-pad with a mirror."

☆ ☆ ☆

A Senator in an anti-suffrage argument said: "The fanaticism of the militants makes me fear universal suffrage. I said to a suffragist one day, 'What do you women want?' 'What we women want,' she answered, 'is justice.' Then madam, said I, why do you all patronize the photographers who keep the best retouchers?"

☆ ☆ ☆

APPROPRIATE ADVICE.

"I found that the amateur photographer had surreptitiously prepared a room in the house for his developing."

"Then he'd better keep it dark."

☆ ☆ ☆

His wife—"But, dear, tell me why you want my photograph taken in this costume?"

Her Hubby—"So that in three years you will look at it and say what I would like to say right now."

☆ ☆ ☆

Uncle Bill was having his photograph taken.

"Look pleasant," the artist instructed.

Uncle Bill ornamented his face with an expansive grin.

"No, no," the photographer explained, "pleasant, I said, not funny."



Discoveries

[The readers of THE PHOTOGRAPHIC TIMES are invited to contribute to this Department reports of their Discoveries for which we will allow One Year's Subscription, on publication of the contribution.—THE EDITORS.]

ON IMPROVISED TRAYS.

Where a tray is needed but none are at hand, the photographer may readily improvise some from discarded plate-boxes, by pouring melted paraffine into one of the three sections, and allowing it to infiltrate into every part of the cardboard. The operation takes only a few seconds, and with a minute to harden, the tray is immediately ready for use. P. S. HELMICK.

☆☆☆

MENDING A BROKEN RUBBER TRAY.

Cement for tray repairing can be made, but for a quick simple way I find nothing better than common black asphaltum paint. Paint the edges and fit together. Set away to dry over night. Then paint a piece of paper large enough to lap well over the broken parts. Also paint the tray well. When the paint is tacky stick the paper on good and give several coats of paint, letting each coat dry well. This serves as an excellent way to repair. J. J. HARMAN.

☆☆☆

A MONOCHROME LENS.

So many times, in the early days of my picture making, have I had an exquisite picture, (on the ground glass,) to show up quite commonplace when printed out. I soon figured out that it was the blending of the colors that made the picture alluring instead of the composition. So I made a monochrome lens, which is much simpler than coloring the ground glass, and much more comfortable than wearing blue goggles. I procured an aluminum screw top (from a cold cream jar) just a little larger than my camera lens. With a sharp pointed knife, cut out the top, leaving an eighth of

an inch all round. Then fit a blue eye goggle over this opening from the inside. and cement in place. Glue a strip of felt around the screw part to make the top fit the camera lens snugly. Slip this "lens" over the regular lens and the picture on the ground glass will be a monochrome.

C. B. PARKS.

☆☆☆

REPAIRING BROKEN GRADUATES.

On account of the construction of the usual form of graduates they are easily broken at the base. After continually buying new graduates for some time the writer found that a graduate from which the base had been broken could be easily repaired by means of the lid from a tin can



filled with a thick mixture of plaster paris in water. The broken and jagged edges of the base are pressed firmly into the plaster paris mixture. After hardening in an oven for a few hours it will be found to be as hard as stone and will last as long as the graduate itself. This plaster paris also

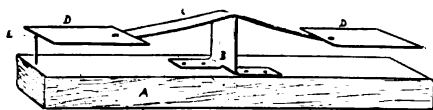
forms an excellent cement for broken trays, fixing boxes and other utensils and will hold together anything except broken promises.

CHARLES I. REID.

★ ★ ★

HOME-MADE SCALES.

A simple set of reasonably sensitive scales is needed by every amateur who does more than "press the button," and with a little care it is possible to make for a trifling cost a pair quite accurate enough for ordinary requirements, *i. e.*, which will weigh from one grain up.



Referring to the drawing. The base, A, consists of a block of wood, say 3 inches wide by 10 long. On the center of this is fastened the support, B, for the scale beam, made from a piece of sheet brass. The lower end is split, and the parts bent at right angles in opposite directions, to permit of screwing or tacking to the base, while the upper end should be filed to a knife edge. The beam, C, is made from a strip of brass (or other sheet metal) about $\frac{1}{2}$ inch wide, and 7 to 8 long, bent at the center, and a V slot made upon the under side, in which the support, B, rides. Two square pans of convenient size are next cut, and one riveted at each end of the beam. If they do not quite balance when in position this is readily corrected by trimming or filing a bit from the heaviest one. Lastly place the scales upon a level table, and drive a wire brad or pin, E, into the base until the head is just even with the outer edge of one pan, taking care of course to have it enough at one side to let the pan ride clear. This pin serves as a guide to leveling the pans when weighing.

A small set of grain, scruple and drachm weights can be purchased from almost any dealer for about twenty cents.

W. S. DAVIS.

CUT OUT FORMS.

Cut outs are a necessity when printing from smaller negatives than the paper or when a white margin is wanted around print.

Changing from one size to another takes up too much time. This is my plan and it has worked very satisfactorily for years.

My camera is a 4 x 5 and I print a considerable number of post cards. I use 5 x 7 printing frames. Take a clean 5 x 7 glass and paste a black paper over it, cut out the largest size opening you are going to use. I cut mine $3\frac{3}{4} \times 4\frac{3}{4}$ inches. Mark off from one corner a 4 x 5 space. Cut out the desired opening $\frac{1}{8}$ " smaller all around. This prints a $\frac{1}{8}$ " white line around print. Next cut two strips of black paper—one $\frac{3}{4}$ " wide and one $1\frac{1}{4}$ " wide by 5" long. Paste one edge of each and first paste the narrow strip on the form overlapping the cut out $\frac{1}{4}$ ". Next paste the wider strip on, overlapping enough to cover a post card $\frac{1}{8}$ ", and the second one $\frac{1}{4}$ " more. These strips are then folded back to clear the cut out when printing full size prints or full width of cards. When one side of the negative is to be eliminated, turn down one or more of the strips and lay negative on the corner of the frame with the undesirable edge where strips are. When printing post cards turn down both long strips and fold back strips at the end. The result is a $\frac{1}{8}$ " white margin on three sides and about $\frac{5}{8}$ " on one end. This plan requires the use of printing frames larger than the negatives. The 5 x 7 size preferred for post cards. When printing frames are same size as negatives, nothing is better than a set of masks of different sizes with a few L-shaped cuts. I keep a stock of these in my register book where they will stay flat and in good shape. Nothing goes ahead of a cut out fastened to the glass where it will not be picked up with the print when you are in a hurry. When using 5 x 7 frames lay mask on glass first and lay the negative on top. This fastens the mask.

J. J. HARMAN

A CHEAP NEGATIVE INDEX FOR FILMS.

A cheap and compact negative index can be made from the following directions: Some blank paper is cut into small strips (about $\frac{1}{2}$ in. x $\frac{1}{4}$ in.) and one end of each is lettered from "A" to "Z." The blank end is then pasted to the open end of an old envelope, one letter to an envelope. You will then have 26 envelopes, lettered from "A" to "Z," the letters projecting above the envelopes about $\frac{1}{4}$ of an inch. The front of envelope "B" is then pasted to the back of envelope "A," the front of "C" is pasted to the back of "B," and so on until 26 envelopes are lettered and pasted together in the rotation of the alphabet. If desired another envelope may be added and lettered "miscellaneous." Of course the front and back may be attached to cardboard and decorated to suit the maker. The negatives can then be readily slipped into the envelope in which they belong.

FRANK TEETSEL.

☆☆☆

A SQUEEGEE KINK.

It is often noticed by the photographer that upon examining his dried squeegeed prints (especially post cards and those on double-weight stock) that he finds them defaced by irregular marks, and sometimes cracks in the enamel. This is caused by parts of the print drying first, causing them to curl convexed, while part of the print is still in contact, thus stretching the enamel and causing an undesirable marked or cracked surface.

After trying several means to remedy this I tried the following which works fine:

Roll the prints on the ferrotype to perfect contact, as usual, then, instead of laying them aside to dry, take another clean plate, place on top of the prints and subject to a medium light pressure until bone dry. In this shape it takes them somewhat longer to dry, but it prevents curling and thus damaging the gloss surface.

When dry the prints may be lightly tapped to loosen them from the plate, when they will be obtained straight and with a perfect surface.

RICH LUCAS.

☆☆☆

A RED AND YELLOW DARK ROOM.

A very satisfactory dark room light may be made in a few minutes in the following way.

Take a five-pound ascetic acid bottle (red glass) and break the neck off with a hammer, making an opening large enough to admit a one-pound Metol or Satrapol bottle. Then slip the smaller bottle inside the larger one and they are ready for use. Have a ten watt electric bulb hang directly over the bottles, which can be set on a table or where most convenient. The cord leading to the bulb should be short enough so that when the light is let down into the bottles it will not touch the bottom of the bottle or you will break a good many bulbs.

This kind of a dark room light can be changed from a red light to a good yellow light by merely taking the bulb out of the bottles. If the two bottles as described above do not make your dark room safe, roll up a sheet of paper (yellow) and put it inside the large bottle. We have used a light like this for three years and would not change for any other.

CANTON, N. Y.

☆☆☆

A SIMPLE STIRRING ROD.

A stirring rod which will answer the purpose as well as a more expensive one can be made as described below.

Take two glass tubes, such as M.Q. developer comes in, and a round stick a little shorter than the combined length of the two tubes. Wash the labels off the tubes, turn the stick down till it is small enough to slip into the tubes, coat it with glue and slip a tube over each end, let the glue dry and you have a stirring rod as good as any you could buy, and one that can be cheaply replaced.

R. L. DIAMOND.



[Manufacturers and dealers in photographic goods and supplies are urged to send us descriptive circulars of their new products for presentation in this department.—THE EDITORS.]

Cyko paper is made in three grades and four surfaces and because of its great latitude is good for all negatives, giving clear and sharp prints. Cyko Contact (Blue Label) is especially for thin films, which with other papers gives a dull, flat, lifeless print. Cyko Soft (Red Label) is for hard negatives and gives gradation. Normal Cyko (Yellow Label) is for the well timed, balanced negative. The amateur photographer should study his negative and use the grade of Cyko best fitted to produce a perfect print.

★ ★ ★

One of the simplest and certainly one of the most useful is the Universal Clamp, which is virtually a pocket tripod, occupying scarcely more space than a bunch of keys. It is screwed into the tripod socket of the Kodak and then clamped to a chair, fence, front board of automobile, in fact anything that its jaws can grip. This clamp is made by the Eastman Kodak Co. and is for sale by all dealers. 75 cents each.

★ ★ ★

An accessory to which a sufficient amount of attention has not been given is blotting paper. A goodly number of prints have been marred by not using a chemically pure stock. Joseph Parker & Son Co., New Haven, Conn., make a high photo finish blotting paper, chemically pure, which can be obtained from photo dealers or first-class stationery houses. The demand for a non-linting blotting is ever increasing, because the users know its value from a photographic standpoint.

★ ★ ★

Chemicals are a very important item for every photographer, whether professional or

amateur. The cost in the end will be much more if care is not used in the selection. The Tested Chemicals of Eastman Kodak Co. are right, if purchased in packages or bottles with seal unbroken, and the Eastman Kodak Co. stands behind every article.

★ ★ ★

Argo, the "No-Trouble" paper for the amateur photographer, is supplied in three grades: Hard for thin negatives, Normal for the average snappy negative, and Soft for contrasty negatives. Argo paper can also be developed in any paper developer. Ask your dealer for the Defender Tipster or write to the Defender Photo Supply Co., Inc., Argo Park, Rochester, N. Y., and don't forget to mention the PHOTOGRAPHIC TIMES. This little booklet contains many little tips that are worth while to the amateur who does his own developing and printing. Do It Now. Send a postal today and you will be well repaid for the effort.

★ ★ ★

The Wollensak Optical Company, Rochester, New York, will send upon request their Beautiful Art Booklet to any of our readers who mention our name. Also information will be given regarding the best style of lens to be used for various kinds of photography, whether portraiture or landscapes or for general work. If you are not satisfied with your present lens or shutter, they can suggest a remedy.

★ ★ ★

The Ansco Co. have made important reductions in the price of Folding Cameras, which reductions were effective Jan. 15th. Capax Shutter models with Symmetrical

lens at a uniform reduction of \$2.50 on each camera, and with the F7.5 Modico Anastigmat at \$5.00 less than formerly. Both of these equipments are of the highest value in amateur cameras.

★ ★ ★

The new Autographic Booklet may be obtained from your dealer or direct from the Eastman Kodak Co., Rochester, N. Y. This booklet explains in detail the working of this wonderful recording camera. All the popular sized Kodaks are now being made so that the Autographic feature may be a part of your equipment if desired.

★ ★ ★

In the *Blue Bird*, January number, Dr. R. W. Shufeldt, of Washington, D. C., a frequent contributor to the PHOTOGRAPHIC

TIMES, gives an interesting account, illustrated in color, of a unique photograph of the Last Passenger Pigeon. During the early part of the last century these birds existed in this country, east of the Mississippi, in countless millions. These birds traveling sixty or seventy miles an hour would darken the sun for days at a time when moving to and fro from their feeding and breeding grounds. No one at that time ever imagined that the time would ever come when this species of bird would be exterminated, but such is the case and to Dr. Shufeldt is the honor of recording by photography, life-size pictures of this now extinct native American bird. Many other of our native birds, such as the Great Auk or the Labrador or Pied Duck are now extinct without any record to show future generations.



THE SPORT OF CHILDHOOD

Floyd Vail

The picture part of the International Exposition of Photographic Arts and Industries to be held in the Grand Central Palace, New York, March 27th to April 3rd, is now occupying all of the attention of the Exposition Committee, the list of industrial exhibits having practically been completed.

Twenty thousand invitations were extended by the committee to camera clubs, professional photographic societies, scientific and astronomical bodies, commercial associations, railroads and individuals, asking for comprehensive picture exhibits for display.

Although the invitations were not sent out until February 1, acknowledgments have been received sufficient to warrant the assertion that this feature of the exposition will command great interest from the public. Assurances have been received from a number of the most important organizations in the east who will make collective exhibits.

Professional associations of the east are deeply interested in the exposition and will be liberally represented.

The Manhattan section of the Professional Photographers' Society of New York will maintain headquarters on the main floor.

The Professional Photographers' Society of New England will also maintain headquarters for the reception and entertainment of visiting New England photographers.

INTERESTING SCIENTIFIC AND HISTORICAL EXHIBITS.

The committee having in charge the gathering of exhibits of interest to the public having educational, scientific and historical value has succeeded in enlisting the co-operation of many of the foremost authorities in photography.

The list of exhibits will include collections from astronomical observatories, scientific laboratories, microscopic societies, together with collections of daguerreotypes, ambrotypes and various later processes up to and including the latest developments in color photography.

Gold, Silver and Bronze plaques will be awarded meritorious exhibits in all the classes and diplomas of merit will be given where deserved.

The plaques and diplomas will be awarded by a jury composed of three of the best known amateur and professional photographers.

The exhibition has been divided into the following classes:

1. Professional portraiture, limited to five pictures from each exhibitor.
2. Amateur prints of every description, limited to five prints from each exhibitor.
3. Commercial prints, limited to five prints from each exhibitor.
4. Examples of scientific photography, limited to seven prints from each exhibitor.

THE RULES.

To facilitate the arrangement of the pictures and their receipt and return to the owners, proper cataloguing, etc., the following rules have been formulated:

1. All pictures must be suitably framed or mounted and must not be less than 6½ by 8½ inches, including frame or mount.
2. Nothing must appear upon the face of the picture or frame except the title of the picture and the name of the maker.
3. All exhibits shall be delivered to the Print Committee, International Exposition of Photographic Arts and Industries, Grand Central Palace, New York, express or postage prepaid, not later than March 15th, 1915.
4. The Exposition Management while promising all care in handling of the pictures and their safe return to the exhibitors, cannot be held responsible for loss or damage to the prints.
5. No exhibits can be removed from the walls of the exposition until after the close of the exposition.
6. Application for space, for which there will be no charge, must be made upon the attached entry blank, and each picture must bear upon the back, the name of the maker and his or her address.

Prospective exhibitors are urged to send for entry blanks without delay so that preparations can be made for a proper display of the pictures.

Address all inquiries to the Print Committee, International Exposition of Photographic Arts and Industries, Grand Central Palace, New York.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

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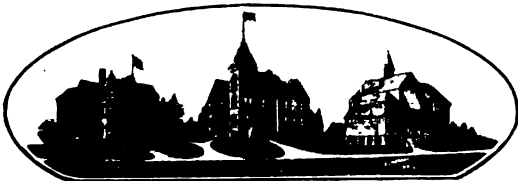
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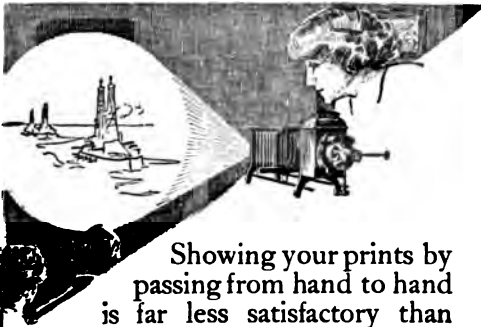
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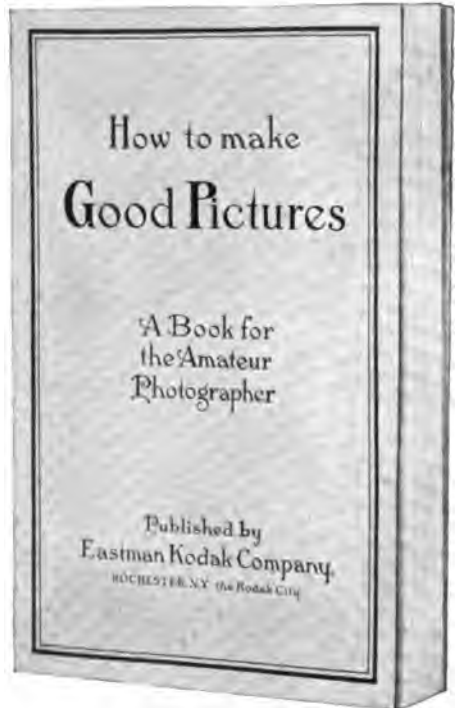
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most anything that may be at hand. The clamp has the sticking qualities of a burr and will hold fast to any object that its jaws can grip. It is constructed on the ball and socket principle which permits the camera to be swung into any position desired. The jaws of the clamp are lined with felt so that it can be screwed to any article of furniture without danger of scratching. The Universal Clamp fits any Kodak, Premo or Brownie.

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ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed on March 30th, 1915, so as to be announced in the May Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

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We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

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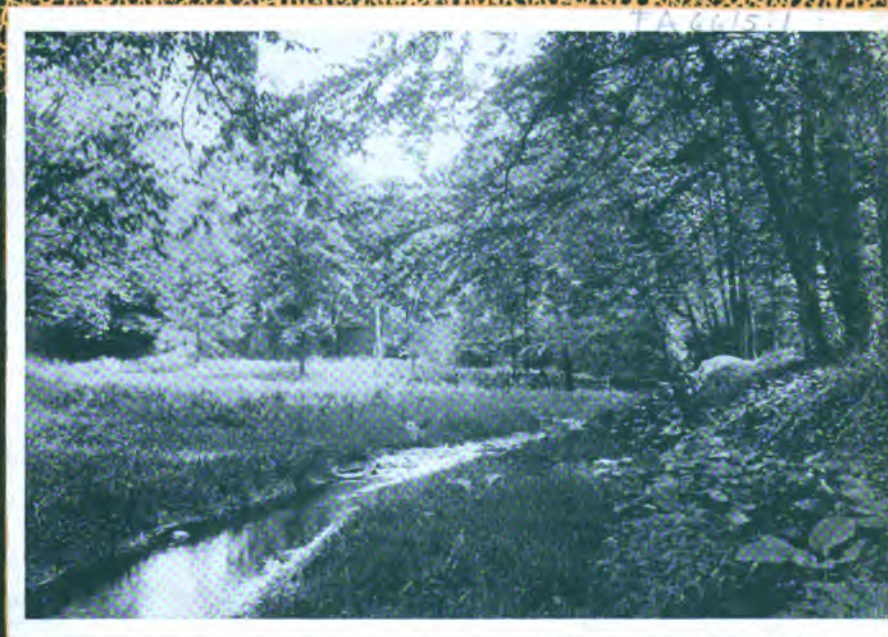
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APR. 1915

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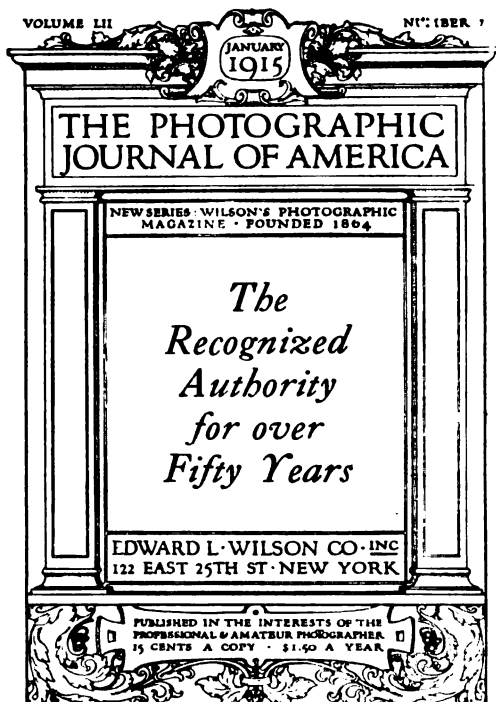
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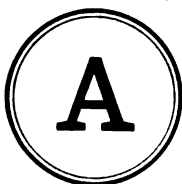
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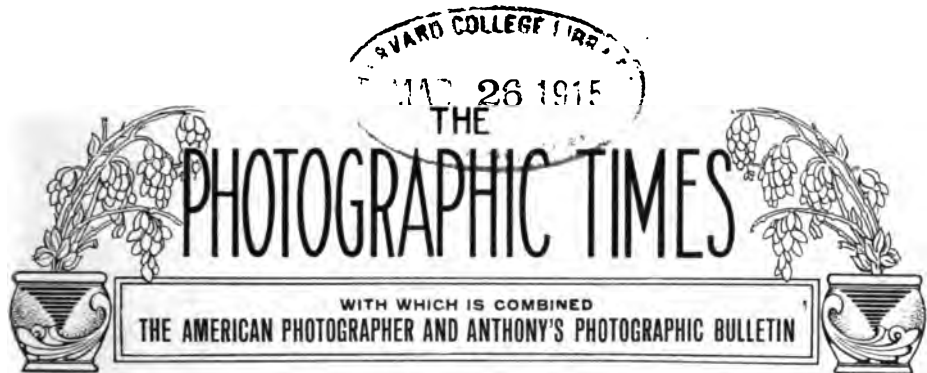
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THE FIRST GRANDCHILD

Arnold Studio



VOLUME XLVII

APRIL, 1915

NUMBER 4

THE SILHOUETTE IDEA IN LANDSCAPE PHOTOGRAPHY

BY SIDNEY ALLAN

With Twelve Illustrations.

Illustrated by W. P. Post, R. S. Kauffman, Curtis Bell, Paul Fournier and others.

A SILHOUETTE originally was the outline drawing of a human head in profile or of any other object that can be defined clearly in that manner, the space within the outlines being filled with solid black. This sort of picture has gone out of use long ago, and lately the word has acquired a different meaning. The modern painters speak of silhouette as a factor in composition, and mean thereby, broadly speaking, a form or shape, the contour of which is so interesting that it furnishes a dominant note in his picture.

There is no other photographer who has made so much of this idea as Paul Fournier. Readers of the PHOTOGRAPHIC TIMES will remember some of his pictures that have appeared from time to time, and that represented little more than a dark mass of foliage in clear outlines against the sky. If you would ask him about the why and wherefore, he would prob-

ably look astonished, and say that he did not know that he was doing such a thing. Most photographers and painters somehow feel ashamed of acknowledging that they had a particular scheme of composition in mind, and perhaps it is true that they work more unconsciously than consciously, and that they leave the solving of such problems largely to intuition, momentary inspiration and their inborn talent.

At all events, Paul Fournier has uplifted the silhouette idea more evidently than anybody else, and for that reason I use with preference his landscape views to analyze and explain the laws that control this innovation.

Whenever a silhouette is used in landscape it is generally in the shape of a tree form as is most of the accompanying pictures as it is the skyline, as in Figs. 3 and 4. Of course, either of these pictures (or the combination of both) must be of such prominence



AMONG THE FOOTHILLS

(Fig. 1)

W. B. Post

that they actually dominate the picture—otherwise the composition could not be rated as an exploitation of the silhouette idea.

The silhouette was a favorite vehicle of expression of the Japanese painters (not to be confused with the designers of the colored prints), like Kornī, for instance, who painted with broad strokes, very much like an expert calligrapher, as seen in Fig. 12. Really the entire design is executed in silhouettes, three distinct masses of which the two that represent the foreground are again divided into minor silhouette forms.

We notice a vague resemblance to this method in the "Roycroft Shops," Fig. 3. When I first saw the print I involuntarily exclaimed: "Why, that looks like a Japanese scene!" There

are the sky line and those detached forms diagonally across the picture. Also in Fig. 4 we find a number of separate silhouette forms that together make the picture. Some one may argue, "You surely do not call the lower shore line in Fig. 4 a silhouette. At that rate, any shape could be called a silhouette." Well, I had to contradict that statement. Only when the space enclosed by a curtain is of a monotone tint, vaguely recalling the solid black of the original shadow picture, can it pass as a silhouette. It may or may not contain detail, but can not show any decided contrast. And the boundary line must be pronounced if not sharp.

Fig. 2, "Dusk," by our friend from Wilkesbarre, R. S. Kauffman, is a capital mood picture, and the composi-



"DUSK"

(Fig. 2)

R. S. Kauffman

tion is entirely dependent on the two tree forms—they make or unmake the picture—but I would hesitate to term them silhouettes. They are too vague for that. Besides tone is by far more important in this picture.

In Fig. 5 the foliage in the upper part of the panel is also vague, or rather seems to be so at the first glance; in reality it is delicate, light in tint, and if not clearly at least fairly well designed. And that makes a great difference. There would be no picture at all without this foliage pattern.

A decided tree form against the sky is the main point of interest we encounter in Figs. 1, 6, 8 and 11. In

Fig. 1, "Among the Foothills," by W. B. Post, it is a question whether the interest centres in the two horses or the dark cluster of trees behind. I believe they are of equal importance, and even dependent on each other. The trees could have never been put in the exact centre of the picture without the horses being where they are. And if you could take away the trees, the animals would have to be much larger to dominate the scene. In "Marshland," Fig. 6, the elm tree is absolutely necessary. The rest of the picture has some interesting detail, but not striking line, shape or color note to give any pictorial value to the composition. In "Solitude," Fig. 8, we have plenty of



ROYCROFT SHOPS

(Fig. 3)

Paul Fournier

vivisection, contrast and nice arrangement, and yet it is the little tree in the center which controls the picture. The same is true of Fig. 11, "Among the Fields," by Curtis Bell. There is some interest in the cultivated ground and the mist among the hills, but it is after all the tree at the right which makes the picture. If the trees in the distance were more solid and clearer

in outline, well, what would happen? There would be a sort of sky line, and still the tree. The two factors would compliment each other. The tree would lose a little in importance. For it is the natural effect of the rising mist which in this instance endows the tree with its indisputable importance as a controlling force.

Some decided form has to control



CAZENOVIA CREEK

(Fig. 4)

Paul Fournier



SPRINGTIME (Fig. 5) *Paul Fournier*



MARSHLAND (Fig. 6) *Paul Fournier*

any landscape, and nothing does it better than a large, clearly defined plane, no matter how odd in shape or scattered, how light or dark it may be. The form, however, must not contain too many straight lines. With a rectangular shape the leading idea of the composition had to be classified as

space arrangement, and it is impossible to produce it by vertical lines as in "The Grove," Fig. 7. A cluster of light or dark foliage, however, could have been introduced; if the same had been of the right size and attractive enough in shape it could have at once dominated even that oblong composi-



SOLITUDE

(Fig. 8)

Paul Fournier

tion. The figure is entirely too small to influence the composition. It is merely a speck. It would become important if the picture consisted only of the section within the dotted lines.

That a silhouette can be light in tone against a darker background is shown in Figs. 3 and 10. The latter, "At the Creek," is really a remarkable feat. It teaches us something new.



THE GROVE

(Fig. 7)

Paul Fournier



WILD FLOWERS

(Fig. 9)

Paul Fournier

There we have a picture of diversified interest with all sorts of shapes, and an abundance of subdued details, and yet it is the light foliage of the little tree, standing at the edge of the creek, which produces the effect, and, strange enough, its tonality is not isolated. On the contrary, a large part of the picture seems to be of the same or almost the same value. The differentiation of values of the foliage and the surrounding area (which shows not less than four distinguishable notes) are very slight. This proves that one does not need a dark background, as in Fig. 3, to produce a light silhouette. Much muffler effects are possible. And Paul Fournier has shown other pic-

torialists the way, not necessary how it is done. He probably could not explain it. It is sufficient that he has suggested some pictorial element which has considerable chances of further development.

Minor silhouette forms are finer in many of the pictures. They probably have always been utilized in pictures that abound in subdued and flat-toned detail. There is none in Figs. 1, 2, 6 or 7. In Fig. 11 we have the row of trees, in Fig. 8 clusters of weeds and foliage, and in Fig. 10 the growth along the shore. In a way, Fig. 9, "Wild Flowers," and the foreground of Fig. 5 also may be rated as silhouette composition. But it is per-



AT THE CREEK

(Fig. 10)

Paul Fournier

haps going too far. Forms are too diffused in these instances. One can not even recognize what kind of wild flowers or weeds have been depicted

in these pictures. And yet it is this indistinctness which makes the silhouette idea at all possible. If the stems, leaves and flowers were clearly



JAPANESE LANDSCAPE

(Fig. 12)

By Korin

defined as in most of Eickmeyer's foreground studies, it would become a matter of line, drawing and detail. The silhouette idea would completely vanish. Fig. 9 is really nothing but a confusion of silhouettes with silhouettes like a Chinese puzzle. It represents the extreme of the method.

The lesson which I wished to convey is best expressed in Figs. 1, 3, 8, 10, 11 and 12. It is the introduction of a new factor in composition, a factor that is Japanese in origin, and that like so many Eastern art innovations will prove useful to those who honestly strive for originality in composition.



AMONG THE FIELDS

(Fig. 11)

Curtis Bell

A NEW PLATINUM PRINTING PROCESS

BY MATTHEW WILSON

AFTER a long period of comparative neglect and unwarranted public disfavor, platinotype printing has of recent years become so markedly popular with all classes of the community, aesthetically-minded and scientific alike, that it is to-day a matter for some surprise that the simplification and improvement of the processes in current use for the production of pictures in this medium has not ere this been seriously attempted by those who, through personal acquaintanceship with the practical minutiae of the subject, have acquired a special proficiency in this branch of photography.

As to the quality, technically speaking, of the work that is daily produced under the existing conditions, and as regards, on the one hand, the class of processes in which a partially latent image, produced in the printing-frame, is subsequently strengthened by treatment with a quasi-intensifier, whilst the nature of the results attained by careful workers not infrequently leaves little to be desired in point of pictorial excellence, the requisite manipulations are, unhappily, both tedious and unnecessarily complicated, in consequence of which circumstances the risk of failure in carrying out the delicate series of manipulations is much greater than is the case at any stage in the production of a silver print.

As a preferable alternative, the simplicity of the processes of the printing-out type, in which the platinum

image attains its full vigor in the course of the exposure to light, without the necessity of any resort to intensifying agencies, is certainly sufficiently pronounced in character to satisfy the most exacting of labor-saving critics; but here, unfortunately, in the majority of instances, at least, the prints so obtained are, as a matter of sad fact, more or less inferior in quality to those produced by the other mode of treatment. This defect, which, it may be added, has been found to be an invariable feature of all the commercial brands of printing-out platinum papers that have come under the writer's notice, can only be attributed to the deliquescent properties of the combination of reagents employed in sensitizing, seeing that, as is well known, the action, under certain conditions, of atmospheric moisture on potassium chloroplatinite and other of the platinum compounds tends to retard and impair the printing properties of these bodies.

Evidently, then, to remedy matters effectually, so as to render the prints that are produced by printing-out methods comparable in point of excellence with those obtainable by the agency of the hot and cold bath processes, it would seem needful that the sensitizing formula should be altered, the salts to which the deliquescent action is referable being omitted, and there being substituted for these other and more suitable compounds of analogous behavior as regards susceptibility to actinic action. As respects, however, the

ferric compounds in particular, the majority of these, like ferric oxalate itself, and the double oxalates of the alkali metals with peroxide of iron—one or other of which bodies in conjunction with potassium chloroplatinite constitutes the combination ordinarily employed in the sensitizing operations—are more or less susceptible to atmospheric influences, and on this account are not available for the purpose of effecting the desired improvement in the printing conditions.

In the course of a series of experiments made by the writer in 1897 on the action of light on the cobalt compounds, he happened to discover that by sensitizing paper with a combination of a cobaltic salt and potassium chloroplatinite platinum prints could be readily obtained by printing-out, which, as regards their pictorial quality, compared very favorably with those produced by oxalate development in the ordinary way. As a practical and reliable method for the production of platinotypes the process in question did not, however, fulfill the expectations which were at the outset entertained respecting its possible utility, for, owing to the very marked tendency of the cobaltic salts to undergo spontaneous decomposition even in complete darkness, it was found, on further investigation, that during the drying operations the sensitized paper was frequently rendered almost useless for printing purposes.

Quite recently, however, in the course of a new series of experiments made with a different combination of reagents, the writer was fortunate enough to meet with a fairly satisfactory substitute for the usual ferric

sensitizer, and the prints which he obtained on paper sensitized in this way, in spite of certain technical shortcomings, were of a degree of excellence sufficient to warrant the conclusion that the new process might, with some slight modifications as regards detail, prove serviceable to those engaged in practical platinotype work.

As is pretty generally known, the salts of uranic oxide, like those of the higher oxides of iron, cobalt, and certain other metals, are very sensitive to actinic action, being, as the result of a comparatively brief exposure to light, converted into uranous compounds.

Notwithstanding the fact that, from time to time since its discovery, numerous attempts have been made to utilize this characteristic property of the salts in question for the production of a variety of photographic print, the pictures hitherto obtained in this way have been too feeble and unequal in appearance to merit even a qualified commendation. Quite apart, however, from their want of bearing on the practical issues involved, these pictorial results, emphasizing as they do, still more strikingly the analogy between the ferric and uranic compounds in their photographic behavior, are theoretically very instructive, and may, indeed, be said to have suggested the idea of interchange, to test the validity of which the experiments about to be described were made by the writer. Carrying the analogy yet another step forward, it seemed to him highly probable for chemical reasons that the uranic salts, like the ferric, might be employed as reducing agents to effect the reduction of the platinum com-

pounds, and that in this way a practicable printing-out process, less uncertain, it well might be, in operation than those in common use, might be devised.

The particular salt selected by him for the preparation of the sensitizer was uranium nitrate, this being dissolved in distilled water in the proportions necessary to make up a 9% stock solution. The chloroplatinite solution that was used to react chemically with the uranium compound was rather weaker than that ordinarily prepared for the sensitizing of printing-out paper, the quantity of potassium chloroplatinite actually present per fluid ounce amounting only to 61 grains, a strength of 14 per cent.

A stout, close-grained, smooth-surfaced paper, without size or glaze, and similar in quality and appearance to that usually employed in platinotype printing having been selected, the sheet was cut up to suit the size of the negatives intended for use, and the pieces were thereafter, as required, sensitized one by one, the treatment varying, of course, according to the particular necessities of each experiment. The preliminary treatment, in those cases in which the use of the uranium salt was resorted to, was given by floating the paper for five minutes in the uranium nitrate bath, the sheet, after its removal from the solution, being lightly brushed over with a glass rod to drain off the excess of sensitizer, and then transferred, wet surface uppermost, to a cardboard tray, and placed in a dark cupboard to dry.

An average period of 24 hours was allowed for the drying operations. When these were completed, eight of

the sheets were resensitized in non-actinic light by coating them with the chloroplatinite solution, which was applied by means of a medium-sized sable brush. Two coatings were given to each sheet, an interval of five minutes being allowed to elapse between the applications, so as to permit the removal by absorption of the excess of solution. Ten sheets in all (including two not previously treated in the uranium bath) were sensitized in this way, of which number nine were of quarter-plate size, and one of half-plate dimensions. The quantity of stock solution used in sensitizing was as follows: For experiments Nos. 1 and 2, respectively, five drops per sheet; for experiment No. 3, ten drops; for experiments Nos. 4 and 5, and Nos. 7 to 10 inclusive, seven drops per sheet; and for experiment No. 6 (1-3-plate size), twenty drops.

A particular description of the experiments themselves, together with a brief synopsis of results, will now be given.

Experiment No. 1.—In this case, the sensitized paper was exposed under a negative (landscape subject) to solar action in the latter part of the month of September last. The quality of the light during the exposure was in the main somewhat dull, interspersed, however, with occasional intervals of sunshine. In the course of a single hour's exposure or rather less, a very clear though faint image was produced, which gained considerably in density in ten or twelve hours, after which a marked decrease in the rate of printing was noticeable. Owing to this, in order to obtain an image of the degree

of vigor deemed desirable, it was found necessary to expose the paper to light for 48 hours. The picture so obtained was of excellent quality, little if at all inferior in density to a good platinum print produced by development. In color the image was rather warmer than that of the average platinotype, being imbued with a tinge of that purple hue normally characteristic of a silver print.

Experiment No. 2.—The doubly-sensitized sheet, when dry, was brushed over with two coatings (eight drops in all) of a 3% aqueous solution of sodium nitrite, and dried in darkness for 11 hours. It was then exposed to light under a negative as before. In about four hours, a faint but distinct image was visible. The fact, however, that the color of the deposit thus formed was of a crude shade of orange, instead of grey, seemed to indicate that little if any of the platinum salt had been reduced to the metallic state. Subsequently, by the expedient of greatly prolonging the exposure to light, a fairly strong image of a very agreeable brown tone, much resembling in appearance a copper-plate etching, was obtained on the expiry of 390 hours. The abnormal hue of the print was probably attributable to the action of the nitrate retarding the reduction of the chloroplatinite.

Experiment No. 3.—The prepared sheet—sensitized, as already mentioned, with a double proportion of chloroplatinite solution—was re-coated after drying with four or five drops of a 1% solution of barium chlorate, the mixture, however, being brushed over only a portion of the sensitized surface. The paper was again dried, and there-

after exposed under a negative as before to the action of light. Half-an-hour's printing in weak sunshine was found sufficient to impress a distinct slate-colored image, which, on the expiry of 8 hours' exposure was observed to have acquired a fair measure of intensity. To ascertain the nature of the effect produced by the oxidizing agent, the print was not removed from the frame until 48 hours had elapsed. Subsequent examination showed that the image produced on the chlorate-sensitized portion was sensibly fainter than the deposit obtained on the uncoated part, thus showing that the chlorate had operated to restrain and retard the printing process.

Experiment No. 4.—The sensitized paper after drying was re-sensitized with five drops of a 2% aqueous solution of ammonium persulphate, and dried as usual. On exposure to light (partly in sunshine) for 16 hours, only a very faint image resulted, and the subsequent growth of this in intensity was exceedingly slow. The color of the deposit was at first a pinkish brown, which, however, in the course of a few days was altered to a brownish grey. The printing operations were discontinued when 380 hours had elapsed. The picture in its final state was rather unsatisfactory, partly on account of lack of vigor, and partly through its being considerably marred in appearance by irregular streaks and patches of a reddish hue.

Experiment No. 5.—The dried sheet having been brushed over with six drops of a 5% aqueous solution of neutral sodium sulphite, was replaced in the drying cupboard for 24 hours. Eight hours' printing of the paper in

weak sunshine gave only a faint image, the color of which was a delicate steel grey. The subsequent exposure to light was somewhat protracted, lasting for 140 hours or thereby, but, owing to the extreme slowness of the process of reduction, the resultant image was too weak in character to be classed as pictorially satisfactory. On immersing the print for 15 minutes in a cold 1% aqueous solution of potassium chloroplatinite, a delicate intensifying action was noticeable, too slight, however, in effect, to impart the lacking density to the picture.

Experiment No. 6.—This experiment was made with the half-plate sheet, sensitized first in the uranium bath and afterwards with the chloroplatinite solution in doubly augmented proportions. After the usual drying, the paper was re-sensitized with 12 drops of a 5% aqueous solution of neutral potassium oxalate. When dry, it was exposed to light under a negative, and was found to be much more sensitive to actinic action than any of the preparations above described, a fairly strong image being produced in the course of seven or eight hours' printing in weak sunshine. The color obtained was a fine grey, resembling that of an average platinotype, but rather more yellow in quality in the high lights. Although an exposure of 50 hours was found amply sufficient to impart full density to the image, the printing operations were not discontinued until upwards of 500 hours had elapsed. It was observed that, during the latter stages of this interval, little additional vigor was produced, the process of reduction of the platinum

salt being seemingly well-nigh arrested.

Experiment No. 7.—The re-sensitizing agent employed in this experiment was a 20% aqueous solution of stannic chloride. Six drops of this preparation were used for coating purposes, and the paper when dry was exposed to light in the usual way. On the expiry of 12 hours' printing in sunshine, a faint grey image was discernible. From first to last, the exposure to light occupied an interval of no less than 96 hours. In its finished state, the picture, unfortunately, did not fulfill the expectations that had been aroused on an inspection of it in its initial stages, for though remarkable for an unusually delicate gradation of tone, the general effect was one of weakness owing to insufficient density. With the object of remedying this defect, the print was immersed for five minutes in a hot concentrated solution of potassium oxalate. The result, however, was somewhat disappointing, for although the image was quite perceptibly intensified by the treatment in the bath, the additional density thereby imparted fell far short of what was actually required.

Experiment No. 8.—The paper used was one of the two chloroplatinite-sensitized sheets which did not receive a preliminary treatment in the uranium bath. Previous to printing, it was re-sensitized by coating it with seven drops of the stannic chloride solution employed in the preceding experiment, and then dried for 48 hours. The exposure, which was made partly in sunshine and partly in diffused light, lasted for upwards of 90 hours. Only

a very faint image was, however, produced, and even that was barely perceptible until near the end of the printing manipulations. The picture was thereafter treated for five minutes in a warm concentrated solution of potassium oxalate. The image now became very distinct (all the outlines of the subject being rendered with great clearness), but remained as a whole very faint, and exhibited little or no breadth of contrast.

Experiment No. 9.—The paper used in this experiment, which had been prepared in the usual way by treatment in the uranium bath and subsequent coating with the chloroplatinite, was re-sensitized 24 hours prior to exposure to light, with seven drops of a 3% aqueous solution of stannous chloride. On the application of this reagent, the surface of the sheet assumed a uniform reddish-brown hue, a phenomenon probably attributable to a partial reduction of the chloroplatinite effected by the agency of the stannous salt. An exposure of 30 hours' duration in the printing-frame was given, but failed to produce any change in the appearance of the paper. Soon afterwards, however, a *negative* picture, formed by the gradual bleaching of the brown precipitate, became perceptible, which, when once visible, increased in intensity with such rapidity, that upon the expiry of another 30 hours the image had attained a degree of vigor which was deemed sufficient to render any further exposure unnecessary. The print was subsequently floated, face downwards, for five minutes in a cold 1% solution of potassium chloroplatinite. No alteration, however, in the appearance of the

image could be distinctly detected as a result of this treatment.

Experiment No. 10.—In this, the final experiment of the series, the paper selected was one of the two sheets in which only the chloroplatinite solution had been applied as initial sensitizer. This, before use, was re-sensitized with six drops of the 3% stannous chloride solution, and dried for 24 hours. During the process of coating the paper with the tin solution, the surface again assumed a uniform warm brown hue. The sheet thus prepared was found to be much more sensitive to actinic action than that employed in the immediately preceding experiment, an exposure of only eight hours' duration under a negative in a dull light sufficing to give a fairly strong negative image. Maximum intensity was obtained in a period of about 24 hours. When, however, 48 hours had elapsed, the picture was much fainter; and finally, on the expiry of 96 hours in all, when the print was removed from the frame, the paper was found to be almost completely bleached, only the barest outlines of the subject being still apparent. A subsequent immersion of the print for five minutes in warm potassium oxalate solution failed to produce any visible intensifying effect.

At the close of the operations, the prints were fixed in the usual way in a weak aqueous solution (1 to 72) of hydrochloric acid, and after 20 minutes' treatment in the bath were thoroughly washed.

As will be seen from an examination of the particulars given in the above statement of results, the investigation just described, notwithstanding

its necessarily superficial character, served effectively enough to demonstrate the utility of the urano-platinite sensitizer as a practicable substitute for the ferri-platinite combination. Out of the eight prints in the new medium produced in the course of the experiments in question, only three, it is interesting to note, proved absolute failures, and this, moreover, in no case on account of the presence of the uranium reducer as such, but simply owing to the accidental inclusion of a retarding reagent in the sensitizing formula. Further, the facts deserve notice, that what proved to be the best prints of the series, *viz.*, those obtained in experiments Nos. 1 and 3, were in both cases produced on paper that had been treated with the normal double sensitizer only, whilst, on the other hand, that those experiments in which a third or auxiliary sensitizer was employed, yielded, with one exception (No. 6), unsatisfactory results. It would seem, therefore, that, with the possible exception of potassium oxalate, the presence of a third compound in addition to the chloroplatinite and the uranium salt is undesirable in the sensitizing operations, in respect of the circumstance that it is liable to exercise a deleterious and retarding action on the printing process. It should also be mentioned that the print which was produced by the use of the oxalate sensitizer, although of excellent quality as regards vigor and contrast, was decidedly inferior in appearance to the two others above mentioned on account of its disagreeable yellow-brown tone.

As to the quantity of chloroplatinite solution actually requisite to produce a

printed image of normal intensity, a point of much practical importance, an examination of the results obtained in experiments Nos. 1, 2, and 6 respectively, would seem to warrant the conclusion that a considerable latitude is permissible in the strength of the platinum sensitizing bath, and that results equally good, pictorially speaking, may be secured with a relatively weak sensitizer as with one containing twice the same quantity of chloroplatinite.

To the two experiments, Nos. 9 and 10, made with the stannous chloride sensitizer, a certain theoretical interest attaches by reason of the fact that the pictures that were produced on exposure to light were not, as in the other cases, positives, but negatives, *i. e.*, reversals, this unexpected result being clearly traceable to the bleaching effect exercised by the solar agency on the already partially reduced platinum deposit.

The few experiments made with the object of intensifying the image after printing, by means of (a) a weak chloroplatinite bath, and (b) a solution of potassium oxalate, whilst they served to demonstrate that, under certain circumstances, a slight increase in density might be obtained in this way must, on the whole, from a purely practical point of view, be regarded as disappointing.

The somewhat excessive exposures (averaging, under normal conditions, 45 hours or thereabouts) which, as shown by the experiments, are requisite for the production of perfectly satisfactory printing results on urano-platinite paper, are, of course, likely to operate as a serious objection to

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the adoption of the process for everyday work, from their being regarded by photographers as unduly lengthy. It would seem probable, however, judging from some supplementary experiments recently undertaken by the writer, but as yet unfinished, that the

defect in question might be simply remedied by increasing the strength of the uranium sensitizing bath, an expedient to which, in view of the marked solubility of the salts of that metal, recourse could always readily be had.



A DISCIPLE OF IZAAK WALTON

Carl Peterson

CLOUDLAND SNAPSHOTS

With Five Illustrations.

BY W. N. JENNINGS

NOW that the Sperry Gyroscopic Stabilizer has arrived, and the miss-fire gasolene engine is almost a thing of the past, the aerophotographer may confine his entire attention to the operation of his camera, without experiencing a sudden sinking-of-the-stomach sensation each time he hears a changing note in the whirr of propeller, or pop of exhaust, fearful in that event of the loss of lens—and life.

It seems but yesterday the writer saw the Blériot monoplane lying in a field near Dover, just after the brave, crippled Frenchman had made the first aeroplane flight across the English Channel; and later watched the half-delirious Englishmen proudly bear the intrepid aviator on their shoulders

through the London train shed to his waiting automobile.

Referring to my journal, I find the following memorandum made at the time: "To-day is a red letter one. Saw the artificial eagle in which Blériot winged his way across the English Channel. Great excitement in London. I predict that within ten years the aerial fleet will be as thick over the Channel as the seagulls that now fly across it."

Such marvellous strides have been made during the past ten years in the art of aerial navigation that most of us will doubtless live to see vast flocks of over-sea fliers dotting the sky far above the surface of the broad Atlantic.

When one has reached for the first



IN CLOUDLAND

Seven passenger balloon "Ben Franklin," 95,000 feet gas capacity. Samuel A. King, Aeronaut. W. N. Jennings, Photographer.

Copyrighted by W. N. Jennings



MAP PHOTO TAKEN DIRECTLY UNDERNEATH BALLOON
Copyrighted by W. N. Jennings

time the upper surface of a floating cloud, either by gas or gasoline, one will gain, while gazing from balloon basket or aeroplane seat, an entirely new sensation, and realize that all preconceived ideas of aerial flight have gone astray.

The basket does not swing; the balloon does not rise, nor does the aeroplane duck and dart and sway at a dangerous angle.

The balloon being wafted along by the wind, there are no gusts of air sweeping around the aerostat. As it requires no engine or propeller to push the balloon upward and onward, absolute silence reigns. In Skyland, beyond the bustle and roar of the city lying far below, the balloon tyro learns, for the first time, the meaning of the term: "Still as Death."

Quite different, however, is an excursion in an aeroplane.

As the machine leaves the ground, there is a pistol-like crackle of exhaust, the whirring of the fast flying propeller, and presently the steady hum of taut wires. The entire machine seems to be in a state of nervous tension, while the onrushing air makes one keep one's mouth shut. But "Familiarity breeds contempt," and one soon learns to feel as safe in plane-seat as in a balloon-basket.

Cloudland Photography will soon be a regular commercial venture. There is a growing demand for sky-scapes, but at the present time the cost of producing aerographs to order is quite prohibitive.

The day is near at hand, however, when the aerial "Flashabout" will be as popular as our present "Runabout," and we shall skim the sky at swallow speed with perfect safety. This means



JUST AFTER LEAVING THE EARTH

Copyrighted by W. N. Jennings

that aerial photography will become a very popular pastime.

For serious, practical work, four cameras will be extensively employed:

1. A fixed focus camera. A long cone-shaped box, fitted with a telephoto or long focus lens, equipped with a roll-holder with film not less than ten inches wide. A touch of a button will release the shutter-blade, and clockwork will automatically reel the film and re-set the shutter.

2. A Panoramic Camera with a long reel of film not less than five inches wide, with a lens of medium focal length. The film reel will be geared with the engine mechanism in such a manner as to furnish a continuous photographic record of the entire aerial flight without any attention on the part of the aviator.

3. A motion picture camera with a thousand foot film-box. This camera will be placed between the knees of the Skyographer, and work easily on a universal joint. To a circular plate in front of the camera will be attached a number of lenses of varied focii, which may be thrown into place in a moment by the touch of the finger. The film mechanism will be actuated by means of compressed air.

4. A special camera, recently designed by the writer, which may be termed a "Map-o-scope" camera. The interior of a glass bowl-shaped "plate" is coated with the usual photographic emulsion. This "plate" is placed in a special "holder" the dark slide being in front of the flat front surface. The special plate holder is attached to the back of a shallow-coned box. A lens



PERSPECTIVE VIEW OF GIRARD COLLEGE, PHILADELPHIA, FROM "EAGLE EYRIE" BALLOON, FROM A POINT ABOUT ONE MILE HIGH
Copyrighted by W. N. Jennings

designed for the purpose throws an image upon the inside convex surface of the bowl or "plate," which embraces an angle of ninety degrees. The camera is suspended from the balloon-basket or aeroplane, giving an unobstructed view of the landscape beneath. A multi-speed shutter allows of a very brief exposure. Owing to the curvature of the "field," where every point is equi-distant between lens center and film surface, a large diaphragm may be employed, and it will be quite possible to obtain color-value pictures by the use of iso-emulsion and light tinted color-filter.

The curved negative is placed in the usual enlarging camera, and prints any size may be obtained, as well as the usual lantern slide.

For war purposes this Map-o-scope camera will be of great service in aero-scout work.

To the Architect who is planning city and suburban improvements.

The City Transit Director will plot upon "Map-o-graphs" present and proposed transit lines and extensions.

Municipal authorities will have spread before them upon a large scale an exact birds-eye view of cities, and intelligently study the question of elimination of crowded tenements, narrow alleys and a thousand eyesores. Also project a system of boulevards and civic and recreation centers.

The City Engineer will be able to study and remove mud and sand-shoals from the banks and bed of the river. From the aerostat one can dis-

tinctly see these shoals clearly outlined below the surface of the water. The Real Estate man may show his clients the character of suburban real estate, and its location with regard to adjoining property.

This is only a brief outline of the importance of aerial photography.

The future Photographer, far removed from the stuffy, smelly dark-

room, calmly sailing aloft, drinking in deep draughts of pure ozone, with eye alert to put on record a sudden glimpse of wondrous cloud formation, lovely panoramas, or glorious sunsets, will, indeed, be a far better man than the camera man of to-day who spends most of his life in a dark-room, and under a dark-cloth, helping to make the Oculist wealthy.

ON THE AFTER TREATMENT OF THE NEGATIVES

BY HARRY A. BRODINE

THE question of exposure in photography is a very important one, as the quality of the finished print is very greatly determined by the nearness to which one has succeeded in determining the approximately correct time to expose the photographic plate for any given subject.

The dry plates of to-day have, as a rule, quite a good deal of latitude on both sides of correct exposure, and any reasonable amount of miscalculation is very generally taken care of by this quality in our dry plates of to-day.

No one can expose plates continually and always judge correctly the required time; therefore the inherent qualities in modern dry plates are a great advantage to both amateur and professional photographers. The professional portrait photographer is generally the leader in uniformity of results as he acquires an intimate knowledge of the light he is using which, although never constant in strength, still is, with very wide bounds, practically the same. The amateur is continually exposing upon a multitude of

subjects and therefore from limited experience he quite naturally falls into grievous errors concerning exposure. Over exposure is quite generally preferable to under exposure, because in the case of the latter, no after treatment will help if the under exposure has been very great. It is quite apparent that it is better to slightly over expose than to under expose. No amount of intensification can possibly increase the density of a hopelessly exposed plate for the simple reason that the unaltered silver will simply refuse to blacken when light of sufficient intensity has not acted upon it. Rapid exposures on dark days should not be attempted unless one is quite expert in the development of rapid exposures and the after treatment of the negative. Wonders can be accomplished with a reasonable knowledge of intensification and reduction.

There are several other methods of remedying the evil effects of under and over exposure, and I shall go into detail concerning them in the latter part of this article.

The most commonly employed in-

tensifier is formed by a mixture of bichloride of mercury and potassium bromide. The negative to be intensified is laid in this solution until the required density is obtained. On close examination the degree of intensification is readily ascertained, although the negative is bleached. After bleaching the plate it should be washed under the tap for a few moments and may then be blackened in a solution of sodium sulphite. This method is very suitable in cases where the entire negative demands intensification. For this intensifier the following formula is excellent and works rapidly. Great care must be exercised in handling bichloride of mercury as it is extremely poisonous and one would do well to use rubber gloves when employing this intensifier. I, myself, have never experienced any ill effects from the bichloride of mercury intensifier, but too great precautions will not be amiss.

Bichloride of Mercury,	¼ oz.
Potassium Bromide,	¼ oz.
Water,	12 oz.
Blackening solution:	
Sodium Sulphite,	1 oz.
Water,	16 oz.

The negative should be left in the Sulphite of Soda solution until all traces of bleaching are removed from the negative. This is readily ascertained by looking at the back of the plate which should be uniformly black with no traces of brown or white streaks.

Local intensification is very useful in a great many cases where only small areas of a negative is thin. The same strength solution may be used as for the ordinary method of intensification.

A small quantity of absorbent cotton is rolled up into a small ball and is dipped into the mercury solution. The well wetted negative is held over the dish and the solution-soaked cotton is lightly dubbed upon this portion of the plate in a circular motion for a short time. After this it should be well rinsed under the tap and if further strengthening is required it may be resorted to in the same manner by blackening the bleached plate and rinsing and then intensifying again.

Care must be used when intensifying a plate that no portion of it comes in contact with hypo, as very bad stains and streaks are bound to occur.

In cases of emergency the ordinary solutions employed in the re-developing of gaslight and bromide papers may be used for intensifying negatives. No apparent gain in density is visible, but the printing quality of the plate is materially altered.

In using the re-developing method of intensification an alum bath of the strength of 10% should be used to harden the film before the final washing. The negative may be left in this bath for from five to ten minutes. The re-developing process is conducted exactly the same as when an ordinary print is being treated.

In cases where even a large amount of local intensification does not quite achieve the desired result, the application of a light coat of Prussian blue water color (in tube form) on the glass side of the negative will hold back the thin portions of the negative wonderfully. It should, of course, be applied over the weak parts of the plate, and the tip of the finger is a good means with which to apply the color.

SPRING, AND THE HAND CAMERA

With Two Illustrations.

BY WILLIAM LUDLUM, JR.

SPRING, the season of the year when "the young man's fancy lightly turns to thoughts of love," also produces two other varieties of the genius "loco," namely, the spring poet and the spring photographer and, to tell the truth, I have never been able to decide which is the worst. In my own case, I have, at various times been accused of both failings and must, indeed, be a sad example to the rising generation.

Spring is the season of sentiment; the sap is rising up through the trunks of the trees, out along each limb and branch, and through every little, tiny twig to sprout into the budding leaf; and the blood of man seems to go

through very much the same process. It starts out from the tips of the toes, gathering heat and force as it travels upwards, until it reaches the brain in a flood of wild ideas, usually designated as "moonshine." In the light of this condition the "spring fever" of genius arises and man becomes, for a season, what he is not. Everything is viewed in a "spot-light" of splendor and assumes the rainbow colors of fancy's fevered flight.

This ability to throw off the frosts of winter for a season of spring delight, for man as well as nature, is a blessing in disguise, a sort of recuperating period.

Things begin to grow again, and,



SPRING—AT THE BROOKSIDE

Wm. Ludlum, Jr.



SPRING—"DOGWOOD DAYS"

Wm. Ludlum, Jr.

growing, never seem the same. The browns and grays of yesterday, in rainbow colors fade away and to the blessed sun of spring we all a hearty welcome sing. There, this surely proves my case, as I have unwittingly fallen into the "spring madness" of verse; the "sap" was there and had to come out.

The camera, too, comes in for its share of "spring vagaries." In the hands of its owner it sees things in roseate hue and, to this fact, is due the over-production of "spring pastorals;" a sad case of misplaced enthusiasm. Spring, to "place the cart before the horse," is the "leap before you look" period; the time when enthusiasm should be tempered with discretion. "All is not gold that glitters," and all is not picture that is merely pretty. Allowance must be made for color. The brilliant greens of the foliage; the enticing reds and pinks of the fruit blossoms, must, of necessity,

be lost in the negative. It becomes then, at this season of the year, a plain, simple matter of correct composition over everything else. Orthochromatic plates used in combination with a little "horse sense" will, to some extent, take care of the color-problem; but composition on the ground-glass, in detail and mass, in light and shadow, produces the picture. Consider the subject in black-and-white, don't let the delights of color run away with it. Be enthusiastic over the joys of spring; browse on the manifold delights of nature's breeding-time; drink deep the perfume of budding flowers; but temper the vision of delight to the limitations of a print shorn of the intoxication of perfume and color and the result may be a real picture.

Developing a "spring picture" is very much the same as with any other. Of course use "spring water" which is best during March, April and May; I have never experimented with any

other brand at this time. The rest of the process is the same as at other seasons of the year. "Know thyself" and the "tools" with which you work. Study the pages of THE PHOTOGRAPHIC TIMES, and read carefully the experience and instruction of those who "know." Get in touch with the leaders of photographic expression and, when you feel sure of yourself,

"spring" your "spring" pictures. In conclusion, "life is as you make it," ergo, the picture as you take it. I say, Get out in the open. Be a poet, be a photographer or whatever else you will; but take advantage of the spring of the year. Let its merry madness steep your veins to overflowing and rejoice again—in a season of youth.

FILMING IN THE DARK

With Five Illustrations.

BY ERNEST A. DENCH.

LEST you be led astray by the title of this article, let me here say that it alludes to night photography.

When you see films in which some of the action transpires at night, do they ever strike you as if they really had been taken during the gloomy

hours? I mean, of course, the dark outdoor scenes, for as you are aware, the indoor ones are produced in the studio in the daytime with the aid of electric light.

If you have been sufficiently impressed to imagine that they are real, then the artful movie director has put



TAKEN BY THE NEW NIGHT LIGHT



TAKEN BY THE NEW NIGHT LIGHT

one over you with a vengeance. "How, then, are the dark effects produced," you will ask me. Well, the secret is this: These scenes are taken in broad daylight, but before you are privileged to see them on the screen they are dipped into a large tank containing deep blue dye, which does the trick.

I have, before now, known the director to give himself away by sheer carelessness. Permit me to cite. In one film I spotted a lady walking along with her sunshade up. Yet spectators were expected to believe that the story took place in the middle of the night.

Another phase of movie photography that has probably puzzled you are the moonlight effects, such as the old man trying to hide behind the clouds, a full moon and also it shining over the silvery sea. The dodge in this case is to wait until sunset. Afterwards a small round piece of untransparent paper is carefully stuck on to

the negative film. A full moon is invariably the result.

But now it is apparent that the death knell of faking has been sounded, for the difficult problem of night cinematography has at last been won over, hence why the make-believe game has had to be played.

I am now going to lay bare the three principal methods which have already proved successful. In a recent Bison film entitled "The Brand of His Tribe" is to be seen a camp setting and the fire casts an eerie glow over the darkness. There are also excellent silhouettes of the players. These were taken one moonless night and the middle of the camp was illuminated with a strong white violet flame for just two minutes. This lit up the surrounding country for a good distance around.

Number two example is "Stonewall Jackson's Way," a civil war drama by Lubin. In this you witness a unique



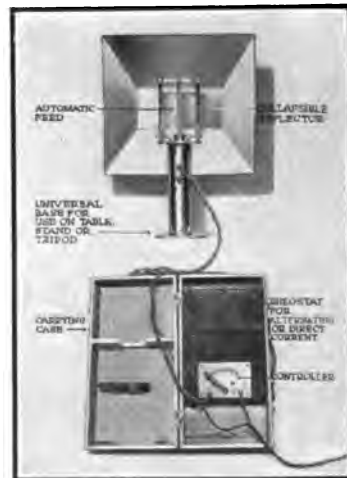
THE NEW
PANCHOMA
TWIN ARC
LIGHT AND
CARRYING
CASE

battle—new because it is the first time that you have been treated to such stunts as bombs bursting over snow-covered fields, with intervals of blinding flashes of light, while balls of flame pour forth from the exploding cannon. Then, too, the staccato points of light are the result of artillery action. It is a dandy fireworks display.

The first problem was to determine the ammunition compound in order that it not only be sufficiently explosive but produce a powerful light. Edgar Jones, the popular actor-director, had to manufacture a special kind of flash-light powder and succeeded after many experiments.

On a wintery night when it was pitch dark the man at the switchboard

had a busy time, for it was his duty to explode the three thousand bombs.



The New Panchoma Twin Arc Light for
Night Photographs

These were manipulated separately on no less than forty thousand feet of electric wiring.

In Imp's "House of Fear" it is necessary for the hero to see everything that is transpiring in certain portions of the lonely country mansion from outside in the grounds at midnight. This was made possible by the newly invented Panchoma Twin Arc Light. Cunningly concealed at the sides of each front window were these lamps, which positively escape detection when you see the picture on the screen. Each of the lights used turn the scale at nineteen pounds, including the rheostat. They are so portable that they can be operated in any house, providing current is available. The lamp comprises a reflector and two powerful arc lights and are carbons are specially prepared to ensure the colors being produced in their natural hues.

The porch is, apparently, lit up by moonlight, although you do not see the



HOUSE OF FEAR

Imp.

moon itself. Our spasmodic friend would not oblige by revealing himself this time, so the requisite beams had to be accomplished by fixing a lamp in the branches of a nearby tree.

THE DIAPHRAM OPENINGS FROM ANOTHER POINT OF VIEW

BY A. H. BEARDSLEY.

WHEN the sun shines too brightly into a room we pull the shade down until the light is reduced sufficiently for the comfort of our eyes. If it is cloudy and we need more light, we raise the shade until enough light is admitted for our needs. This, in brief, is the "law and the prophets" regarding the use of the diaphragm or stops. Our lens is the sun and our iris diaphragm the window

shade. If the edge of the window casing were marked 1, 2, 3, 4, representing the height above the window sill in feet, and instead of haphazardly raising the shade we brought it exactly to the mark 3, we would then be measuring or controlling more or less mathematically the amount of light admitted into the room. If, when the sun shone on the window too strongly at any time of day, we pulled down the

shade from the four to the two foot mark we would still have control of the amount of light. When our lens is marked F6.8 and we move the diaphragm lever to the mark F16 we are doing exactly the same thing as pulling down the shade. Nothing so very technical about this, yet perhaps no one thing bothers the average amateur to a greater degree. Moreover, even if he does know that he must use F8 in preference to F6.8 on a clear day he does not always know why or what effect this change actually produces on the film.

The average amateur cares little whether the diaphragm opening bears any relation to the focal length of the or not. He wishes to know why F8 lens is not the same as F64. If they are not the same, just what difference does exist and how does it affect his pictures. To tell him that "each stop is marked to indicate the relationship of its effective aperture to the focal length of the lens with which it is to be used" means little if anything. True, this statement is optically correct; but suppose a physician explained a disease in terms medically correct would we really know any more than we did before. The average amateur is a man of intelligence, but we must remember that he is not devoting his life to photography any more than we are to medicine. Hence let us "talk shop" to the amateur as we hope the physician will discuss medicine with us.

Now let us return to the difference between F8 and F64. Suppose we give you a pail and ask you to go to a well and bring enough water to fill a barrel. Obviously, the time you re-

quired to do this would depend upon the quantity of water you carried on each trip. Now if we give you another pail holding half the quantity of the first pail; then one holding a third as much and finally one holding a fourth, the length of time required for you to fill the barrel would increase a half, a third and a fourth again as long as with the first pail. The real difference between the pails is the amount of water each will carry. The real distinction between F8, F16, F32 and F64 is the amount of light each will admit. As a matter of fact, the whole proposition works out as follows even technically,—pail (F8) requires four trips, F16 will need sixteen, F32 as many as sixty-four and F64 the great number of two hundred and forty-six. From this it may be seen that if you took pail F64 it would take some walking and a long time to fill our barrel. The above statement is based on the following table from Prof. Louis Derr's book "Photography for Students of Physics and Chemistry."

F	F	F	F	F	F	F	F	F
—	—	—	—	—	—	—	—	—
4	5.65	8	11.3	16	22.6	32	45.2	64

This series requires the following exposures, in terms of the exposure for the largest stop as unity:

1, 2, 4, 8, 16, 32, 64, 128, 256.

From this you may quickly see that the use of F8 requires four times the exposure of F4, or that F16 requires twice the exposure of F8. Hence, if you were setting your shutter speed at 1/100 of a second for F8 you would be obliged to change the speed to 1/50 if you wished to fully expose your film at F16.

To get the most out of the diaphragm openings you must remember that the greater the speed of your shutter the more you must open the diaphragm; and likewise, the slower the speed the smaller the opening you may use. Suppose for the moment that the only stop you had your shutter was F8. By varying the speed of the shutter you might get along very nicely under certain favorable conditions. Again if you only had a shutter speed of 1/50 of a second and a range of diaphragm openings you could get pictures. Why then, have so many shutter speeds and stops. The reason is that when both are adjustable to the conditions at the time of exposure you are not so limited as to the snapping of the subject at the right moment. It is purely a matter of adaptability. The No. 2 Brownie will do beautiful work even though it is limited in lens, shutter and stop equipment. As a matter of fact, most box cameras of this type have but one shutter speed and, yet, witness the good pictures that are obtained. Nevertheless, there is always the craving for something better,—something adjustable to a wide range of conditions. Hence, we have all manner of lenses, shutters and stops.

Lastly, what real effect does all this changing of openings and length of exposures have upon the film. You all know that if you take the common garden variety of hose without a nozzle you obtain little power to throw water any distance. Now screw on the nozzle and immediately you are able to throw the water with enough

force to reach the points previously too far away. If you reduce the diameter of the nozzle the stream of water, though smaller, will reach still further and so on until you shut the water off entirely. The diaphragm is nothing more or less than a nozzle controlling the power (depth) of light admitted through the lens (hose) of your camera. The smaller the stop the less light (water) passes through but the more power (depth) is obtained. In short, wherever conditions permit, use a small stop, increase the exposure in correct proportion and thereby add to the depth and detail of your picture. In passing we might state that by "depth" is meant the rendering of near and distant objects equally clear. The larger the opening the more light is admitted but only the accurately focused objects are really clear.

Do not be afraid of the diaphragm on your camera. Get acquainted with it, and by so doing you will reap a rich reward in better and clearer pictures. Master just the three stops F8, F16, and F32 for then eighty per cent of your diaphragm troubles will disappear. Try to understand these apertures and their corresponding exposures so well that you will have absolute confidence in your ability to get a picture by their use each and every time. Some day you will find that all this seemingly "jumbled up" relation of diaphragm and shutter speeds will become very simple, and then it will become automatic. After that, in popular parlance, "you should worry."



MOONLIGHT ON THE LAKE

Warren R. Laity



CURRENT EVENTS *and* EDITORIAL COMMENT

WITH this number of THE PHOTOGRAPHIC TIMES, we are making some further changes in the make-up, as well as the printing of our magazine, which, we hope, will meet with the approval of our readers. Instead of having the various departments printed in different sizes of type, as formerly, we are printing the entire magazine in one style of type,—in large and legible ten-point, or “long primer,” as it used to be called, discarding the eight-point, or “brevier” type entirely. We are also doing away with the various sub-divisions of the magazine, many of which were more nominal than actual, and will devote a quarter to a third of the magazine, each month, to Current Events and Editorial Comment, under which general heading will appear not only our Editorial Notes, but news items of current events, such as the doings of photographic societies and camera clubs, items of timely interest, reviews of new books, patents and apparatus, descriptions of new processes and improved methods, contributed by our readers, and heretofore published under “Discoveries,” trade notes, and all other matters which we think would be of interest and value to our readers. Practically all of our magazine will

consist of original matter, as heretofore, and it will all be illustrated, as in the past, by the best examples of photographic pictorial art which we can obtain in this and other countries.

Our Print Competitions, which have been so successful since they were revived, a year or two ago, will be continued, and increasing attention will be given to the reproduction of the successful pictures, as well as others which have commended themselves to the Board of Judges.

We have already adopted a new cover, which has been very highly complimented by our readers, and we are, with this number, using new designs for our interior headings, and will, in future, print the magazine in double columns, instead of full page measure, as this method enables us to use our illustrations to better advantage, and, we believe, is also a better guide to the eye in reading.

THE PHOTOGRAPHIC TIMES has made marked progress in its subscription list, and the patronage of advertisers, since the beginning of the year; all of which is very gratifying to us, as it indicates that our continued efforts to improve our publication has been, and is being, met with the approval of our friends and supporters.

We solicit the constructive criticism of our readers at all times, whether it be favorable or otherwise, as we value the remarks of those who are most interested in our periodical.

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WE cannot urge too strongly upon our subscribers and readers the fact when corresponding with our advertisers to mention that the advertisement was noticed in THE PHOTOGRAPHIC TIMES and that they are readers of this magazine.

All advertising is placed upon a purely business basis, to interest prospective buyers. We know our readers are keen for the latest and best in the photographic market and the best way to know about the newest articles of the manufacturers is through our

advertising pages. Results for the manufactures are based upon the number of inquiries received, and due credit is given to this magazine when our name is mentioned. We have not "harped" on this subject to our readers, but we do feel in justice to ourselves that our readers should mention THE PHOTOGRAPHIC TIMES when sending for price lists, inquiring about methods, etc. It does not matter whether you read other photographic magazines, just write "I saw your advertisement regarding — in THE PHOTOGRAPHIC TIMES and——."

This information to our advertisers will be sufficient testimony and bear out our claim that advertisements (which by the way, is the life blood of all magazines) placed with us bring many returns or inquiries regarding the articles advertised.



THE RIVAL OF THE EAGLE

Hand Camera Snapshot

Copyrighted by W. N. Jennings

THE FIRST GRANDCHILD.

The frontispiece this month, a full-page portrait, entitled "The First Grandchild," is from the studio of Arnold, of Montclair, New Jersey. Mr. Arnold has made a specialty of children, particularly babies, portraits. The present picture is a very good example of Mr. Arnold's skill with a very young child. Just who this "First Grandchild" is the Editor of this magazine refuses to disclose, for it might indicate an age which he does not like to acknowledge to his readers. President Wilson has nothing on the Editor-in-Chief of THE PHOTOGRAPHIC TIMES.

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AN INVITATION.

To those of our readers who visit the International Exposition of Photographic Art and Industries in the New Grand Central Palace, New York City, March 27th to April 3rd, we extend a cordial invitation to visit the booth of THE PHOTOGRAPHIC TIMES. Make our booth your headquarters, drop in on us to rest and recuperate after visiting the exhibits. Make our booth your appointment place, writing materials will be on hand and also interesting reading matter. We will endeavor to assist you regarding directions and furnish you with whatever information is in our power.

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INTERNATIONAL EXPOSITION OF PHOTOGRAPHIC ARTS AND INDUSTRIES.

A lot of friendly rivalry is being demonstrated in the ranks of photographic manufacturers and dealers who have taken space at the first International Exposition of Photographic

Arts and Industries to be held at the Grand Central Palace, New York, March 27 to April 3.

It is now realized that the exposition, the first of the kind to be held in the United States, will attract nationwide attention and draw crowds variously estimated as from a quarter to a half million persons.

Great quantities of tickets are to be distributed by the exposition management through the agency of photographic dealers, the exhibitors and various organizations of photographers. Judging from past experiences of the exposition management, few tickets will go to waste.

Every effort is to be made to interest the camera user and as a result of the exposition, it is to be expected that many thousands of recruits will be made to the most fascinating of all hobbies—photography.

The list of exhibitors includes the makers of every known device used in the photographic process. Camera manufacturers from all over the world will display their latest models and the exposition will really represent the opening of the 1915 camera season. In addition to cameras, the makers of plates, papers and all of the accessories will place on exhibition the newest and latest developments in their respective fields.

The exhibition of pictures which is to form a prominent feature of the exposition will embrace examples of every form of photographic expression, dating from the days of Daguerre and including six different solutions of what was once called "the unsolvable problem"—color photography.

WILKES-BARRE (PA.) CAMERA CLUB.

The Fourteenth Annual Exhibition of the Wilkes-Barre Camera Club was held in the club rooms in February. Over three hundred prints were submitted to the judge, Mr. Sadakichi Hartman, one of the best known art critics in America, and one who is well known in photographic circles by his writings on that branch of art, and also for his quick judgment and impartiality. Ninety-six prints were chosen as having the requisite standard of artistic merit. Ten prints of a diversity of subjects were awarded certificates. The exhibition was a success in every respect, and the committee desires to express their appreciation to all those who contributed their help.

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ORANGE (N. J.) CAMERA CLUB.

Rules governing the twenty-first annual print exhibit have been published. The entry list will close May 1. A public exhibition will be held soon after the awards have been made.

A meeting of the board of governors was held March 13th. The annual meeting was also held March 20.

The annual lantern slide exhibit will be held Thursday, April 15, in Central School auditorium, Orange.

The slide work for the year has been almost finished and the 1915 interchange set has been pronounced one of the best ever turned out by the members.

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THE "1915" BRITISH JOURNAL
ALMANAC.

This ever-welcome annual has now reached its fifty-fourth volume with an increased edition, which bespeaks its continued popularity.

As in previous volumes the 1915 almanac contains a review of all the latest in photography, and formulae for the principal photographic processes.

Tables for Weights and Measures, Chemical Tables, Exposure Tables and the various Optical Tables are given, with explanatory notes for each.

Without a doubt the "B. J." Almanac is the best photographic annual published because of its containing such a diversity of subjects which are of every-day usage by the photographer.

The price in paper covers \$0.50, cloth covers \$1.00, postage extra according to zone. George Murphy, Inc., Genl. Sales Agents, 57 East 9th St., New York.

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LOVELIEST WOMEN CONTEST.

The Judge's report on the Fifty Loveliest Women Contest conducted by the Ansco Company was made on February 10th.

It is to be regretted that only 39 were designated as worthy of award, considering the immense number of prints received. The high standing of the Judges leaves no question as regards the merit of those honored with an award. The pictures are now at the Panama-Pacific Exposition.

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PRICE OF HAUFF'S DEVELOPERS NOT
ADVANCED.

We are advised by G. Gennert, 24 East 13th Street, New York, American agent for Hauff's Developers, that the prices for all their developers have not been advanced on account of the European war. Your dealer can supply you at the regular price, with Metol, Ortol, Glycin, Amidol, Pyrol, or Hydrokinone if you will specify Hauff's.



THE BRIDGE—CENTRAL PARK.
(Wilkes-Barre Camera Club Exhibition.)

D. J. Rusicka

ALL KODAKS CAN NOW BE AUTOGRAPHIC

Since the advent of the Autographic Kodak the desire of all owners of Kodaks has been to have their Kodaks equipped with this important feature. The Eastman Kodak Company now announce that it is possible to procure the new Autographic back for all the most important Kodak models. The backs can be purchased through your dealer.

The simplicity and authentic record of each exposure appears to the owner of an Autographic Kodak, and also the fact that there is no extra charge for the Autographic film. Regular films can be used with the Autographic Kodak at any time, but of course the door in the Autographic back must not be opened under any circumstances, or the film will be fogged.

THE AUSTRALASIAN PHOTO-REVIEW.

We are in receipt of the First Colonial Number of the above magazine. It has been the ambition of the Editor, Mr. Walter Burke, F.R.P.S., to produce an entire Australasian number, with every article especially written and illustrated by Australasians. The realization of that ambition to the Editor should be very satisfying, as we can testify. Some very timely articles upon subjects near at hand and others of a more general nature are included in this first All-Colonial Number. We congratulate our esteemed contemporary upon his efforts and extend to him and his co-workers our sincere regards in the continuation of his labors to present a truly representative photographic journal to the amateur photographers of Australasia.

THE PHOTOGRAPHIC TIMES

THE ANSCO FILM PACK.

The new film pack in sizes $2\frac{1}{4} \times 3\frac{1}{4}$ to $3\frac{1}{4} \times 5\frac{1}{2}$ of the Ansco Co. will be ready for delivery March 15th. This new film pack is essentially different in principle from other film packs, and easily manipulated. Only one tab projects from the camera at any time, thus avoiding the possible error of drawing a tab other than that of the film that is in position for exposure.

Exposed films may be removed from the pack at any time for development.

This new film pack may be used in any film pack camera, or with a suitable adapter in any plate or film camera.

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A NEW FIELD FOR AMATEURS, PRESS PHOTOGRAPHERS AND PROFESSIONALS.

At last you can take snapshots of moving objects in darkness or dim light and get surer, better and more uniform results with either hand or tripod camera than are usually secured in daylight work.

The Imp Flashlight Gun is a thoroughly practical, absolutely reliable device that operates the shutter and sets off the flash *simultaneously*. So dependable and accurate is it in operation that failures are impossible even with the fastest shutter speeds required. It operates pneumatic shutters or those actuated by flexible spiral cable with equal facility.

The flash powder is furnished in paper cartridges of sizes to give proper lighting under all conditions. The Imp Gun automatically ignites the flash and operates the shutter at the proper instant to secure best results.

You simply pull the trigger—the gun does the rest.

The big advantage of this arrangement is instantly apparent. Excellent home portraits, groups, babies, family pets and subjects in rapid motion can be photographed without danger of picture being spoiled by blurring of objects or incorrect timing. Exposures may be made in strong light, permitting accurate focusing and posing and it eliminates the stare usually produced by sudden transition from darkness to flash by the old method. Gun can be fired by pulling a string, thus allowing operator to get into picture also.

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CYKO LINEN.

The Ansco Company announces that they have received a shipment of raw paper stock both white and buff from Europe, and that they are prepared to again accept and fill orders for Professional and Enlarging Linen Cyko.

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PHOTOGRAPHS IN COLOR.

An exhibition of color prints from photographic negatives was recently given in the Municipal Galleries in the Washington Irving Building, New York, by Mr. John Lewisohn, engineer and chemist.

The unique feature of the work was the paper—plain every-day blue print paper. The process is a series of color washes, instead of washing off the process washes the color on. The process is patented. Mr. Lewisohn has been experimenting for years with this process and it has been favorably commented upon abroad wherever shown.

A NEW IMPERIAL PLATE.

Quonon, is the name of the new double coated, non-halation plate of Imperial manufacture. Of fine grain, color sensitive non-filter emulsion, adaptable to landscapes, portraits and commercial photography. Prices quoted upon application and samples sent upon request from your dealer or to G. Gennert, 24 East 13th St., New York.

☆ ☆ ☆

A NEW MILITARY CAMERA.

The military camera of a Saxon named Maul is carried by a rocket over the landscape to be photographed. The rocket, twenty feet long and weighing about fifty pounds, is mounted on a special support, which is raised to the degree necessary and aimed by means of sights, and the electrically ignited powder charge carries the rocket to a height of about 2,000 feet. As it turns to fall, exposure is made by an electro-pneumatic shutter, worked by a small battery. Directly afterward a parachute opens, holds the camera thirty feet above the rocket, and the whole apparatus falls gently to the ground. Very distinct pictures seven inches square are obtained.

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ILLINOIS COLLEGE OF PHOTOGRAPHY.

The Ansco Company of Binghamton, N. Y., held a professional school of photography at the college the last week in February, which was very successful, and was much appreciated and enjoyed by the students. We are looking forward to their return next year, with a great deal of pleasure.

Prof. A. J. Newton, for a number of years principal of the London County

Council School at London, Eng., made the college a visit last month. Prof. Newton is an expert in the branches of photography and photo-engraving, and expressed himself at the scope of the work done at the Bissell Colleges.

Mr. J. A. Rinehart, secretary of the Bissell Colleges the past thirteen years, has resigned to take up the newspaper work. Mr. Rinehart is a very able man, and will make a success of his new vocation. The vacancy at the college is to be filled by Mr. Le Grand Flack.

Mr. Chas. H. Storms, of Manila, Philippine Islands, has been appointed to take charge of the Photographic Department of the Philippine Bureau of Education, at the Panama-Pacific Exposition. Mr. Storms was a student at the college in 1913.

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PHOTOGRAPHERS' ASSOCIATION OF THE CINCINNATI CHAMBER OF COMMERCE.

The monthly meeting of the Photographers' Association of the Cincinnati Chamber of Commerce was held March 1st and was attended by nearly every member of the Association.

It was decided to hold a public exhibition of photography possibly the first week in May exploiting the work of photographers who are members of the Photographers' Association of the Cincinnati Chamber of Commerce.

The members unanimously decided to extend an invitation to the Photographers' Association of America to hold their 1916 Convention in Cincinnati, and an active campaign will be made to send a large delegation of Cincinnati photographers to Indianapolis, to extend the invitation.

YONKERS (N. Y.) CAMERA CLUB.

The Second Annual Exhibition of the Yonkers Camera Club will be held May 17th to May 22d and an invitation is extended to all amateur photographers to compete. All entries must be in the hands of the secretary not later than May 8th. A silver medal will be awarded to the best print in the exhibition, and two bronze medals will be awarded in each of the following classes: Portraits, Figure Composition, Landscape, Marine, Still Life, and Flowers. Honorable mention will also be awarded to other prints according to the discretion of the judges.

For further information regarding conditions of entry, address William Beck, Secretary, 2 Guion St., Yonkers, N. Y.

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THE OLDEST LENS.

The oldest known lens in the world is one which was found by Professor Flinders Petrie in the Fayoum, Egypt, and consists of a somewhat yellowish glass about half an inch thick and a little over two inches in diameter. It is of plano-convex form, and, although much injured by time, is still capable of forming an image.

The use to which such a lens was put seems doubtful. It may have been employed in the arts as a magnifying glass, or perhaps as a condenser to concentrate the light of a lamp upon the work in hand; there is now no means of ascertaining its purpose; and any mount it may ever have had has long since perished. Still that it is a lens, deliberately made for one of the uses of such instruments, carefully ground to shape on a wheel or lathe, there can be no doubt.

From the circumstances amidst which it was found, it is presumed to date from the second or third century A.D.

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PRINTS ON FABRICS OR HANDKERCHIEFS.

This can be done in various ways. For the best and most lasting method choose the platinotype process, but this is not quite a beginner's process. The more usual method is by means of silver. Roughly, it may be worked as follows: Ten grains of Iceland moss are macerated in one ounce of boiling water, allowed to cool, and filtered. Twenty grains of sodium chloride are dissolved in this. The dry fabric is soaked in this for 10 to 15 minutes, wrung out, and dried flat, and smoothed with very cool flat-iron. The fabric is now brushed over with a 50 gr. per ounce solution of silver nitrate in distilled water, and dried (flat) in the dark. This is then printed under a contrasty negative, well washed in cold water, toned in: Water 10 oz., soda phosphate 20 gr., gold chloride 2 gr. Again washed, and fixed in 10 per cent. hypo, and finally well washed, dried, and ironed. This image, if properly made, is not removed by ordinary (laundry) washing.

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A LIVELY PLACE.

First Boomer—You fellows have no git-up about you at all. Why don't you have photographs of your town taken, like we did? Are you ashamed of it?

Rival Boomer—Naw, that ain't the reason at all. I want you to understand, young fella, that our town don't stand still long enough to be photographed.—*Terre Haute Express*.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

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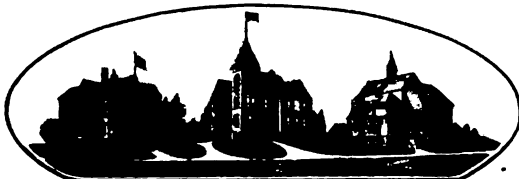
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Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens in cells, with case, will cover 5 x 7 plate wide open, \$18.00 post paid.

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ROCHESTER, N. Y., *The Kodak City.*

"Oh, if I only had a Kodak!"

How many times have you made this remark, "Oh, if I only had a Kodak?" And how many times have you heard others make it? Statistics are lacking on this interesting point but we suspect that if all the people guilty of such a statement were placed side by side, they would completely girdle the globe three times with enough left over to extend from New York to San Francisco.

Jack, who looks as if he had just stepped out of a band box and knows it, suddenly loses his balance and falls in the lake, straw hat and all. As he comes up sputtering, your first thought is, "Oh, if I only had a Kodak!" It's the unexpected that always happens and it's the unexpected picture opportunities that are often the best of all. The really humorous or exciting situations seldom take anybody into their confidence. Your first warning is a sudden "bing" and then "Oh, if I only had a Kodak!"

Why not have a Kodak with you—a Vest Pocket Kodak—all the time? You wear it like a watch and it's just about as handy. The V. P. K., you can always have with you either in the vest pocket or in the hand-bag—it's equally at home in both.

The Vest Pocket Kodak has been called the "essence of efficiency" which describes it exactly. Small and dainty,

it does just what the larger Kodaks would do, only on a smaller scale.

It's the work of an instant to "snap" the picture with the V. P. K. It's always in focus and all you have to do is to "click" the shutter. The V. P. K. takes pictures $1\frac{1}{8} \times 2\frac{1}{2}$ inches, and the negatives will make good enlargements. The Vest Pocket Kodak Enlarging Camera is constructed particularly for

this work, and $3\frac{1}{4} \times 5\frac{1}{2}$ enlargements (post card size), can be made with the greatest ease. The V. P. K. has a capacity of eight exposures without reloading and is equipped with a convenient reversible finder for composing the view in either a horizontal or vertical position.

Of course, the V. P. K. should not form the entire photographic equipment. The larger Kodaks, when available, will often answer the purpose much more satisfactorily.

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ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed on June 30th, 1915, so as to be announced in the August Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

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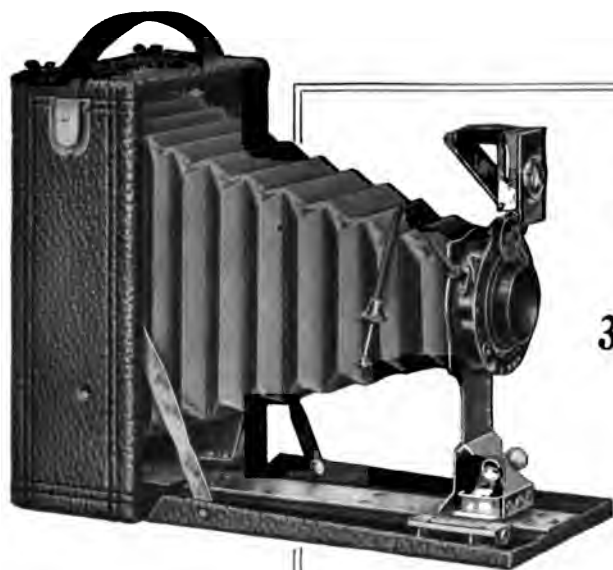
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We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received by us not later than June 30th.



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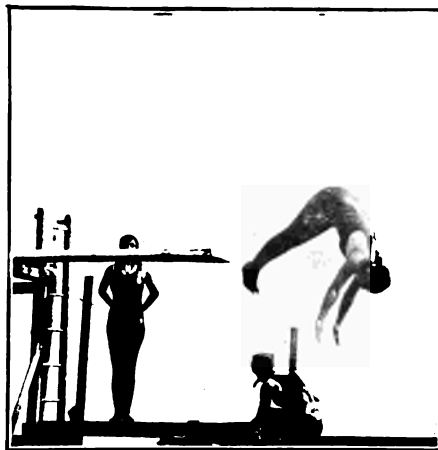
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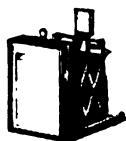
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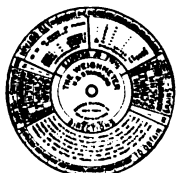


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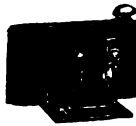
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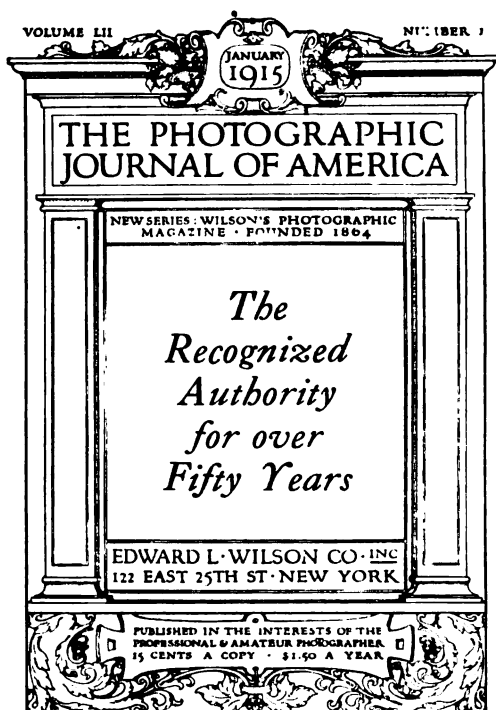
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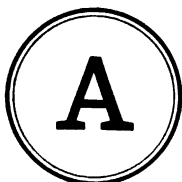
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Volume XLVII

MAY, 1915

No. 5

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THE SNOW PATH

W. H. Sargent

First Prize in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.



VOLUME XLVII

MAY, 1915

NUMBER 5

THE PHOTOGRAPHIC TIMES' "WINTER LANDSCAPE" PRINT COMPETITION

WITH the arrival of the beautiful spring days, our thoughts very naturally turn to the great world out of doors, and the photographer becomes more interested in landscapes than in any other branch of his charming art. We are sure that our readers are no exception to this general rule, and that in the May Number of THE PHOTOGRAPHIC TIMES, they might expect to see pictures of spring landscapes and kindred subjects. But, we ask them to pause, for a while, and consider, with us, the very beautiful prints which have been awarded prizes, Honorable Mention and High Commendation in our "Winter Landscape" Competition, which closed on the Thirtieth of March.

Our object in having this particular competition at this time, was to give our readers ample opportunity for making their winter pictures up to the very last moment. The results of our competition, as shown herewith, will convince all that we have been amply repaid in selecting this opportune time for the Winter Landscape Competition.

The winter, in the immediate neighborhood of New York, has been an unusually mild one, with very little snow or ice, and, therefore, with few real typical landscapes to be photographed. Most of our competitors in this part of the country, we think, must have given up the idea of securing suitable snow subjects for their cameras, when lo and behold, the greatest snow storm of the season, in fact, almost another blizzard like the great one in '88, occurred at the very beginning of the spring season. Some of our competitors apparently became tired of waiting for snow, and sent in their prints, made during the winter, to be sure, but of subjects showing the earth in its brown coat, which might have been proper for either spring or fall. Those who waited, however, were rewarded, and we have received an unusually fine assortment of typical winter pictures, with snow and ice, and exhibiting characteristic winter sports and pastimes. The number of prints was fully equal to, if not in excess of, our previous competitions,



WEATHERING THE BLIZZARD

George H. Heydenreich

Second Prize in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.

while the average of merit was much superior to any competitions we have yet held with the landscape subject.

The First Prize, for "The Snow Path," was given a new competitor in these subjects, Mr. W. H. Sargent, who submitted several prints of similar subjects and treatment, and to whom the Judges, after due deliberation, awarded premier honors; his entire collection was excellent, and of very high average of merit, but the particular picture which the Judges awarded First Prize, stood out, not only in his own admirable collection, but in the entire competition, as particularly fine, both in composition and in execution. Through an apparent oversight, Mr. Sargent did not give us full particulars in regard to his print, so that we are unable to tell our readers just how it was made. The print

was on glossy Velox, which brings out the details of the negative very nicely. It was slightly tinted, which enhanced the artistic value of the print, but does not, of course, appear in the negative.

The Second Prize was awarded to Mr. George H. Heydenreich, for his fine winter scene entitled "Weathering the Blizzard." It is a characteristic picture, made in Madison Square, New York, which looks much better in the original than in the reproduction, because it depends, for its charm, considerably upon its delicate atmospheric effect. The composition is excellent, and the print is well made; but its soft, winter aspect particularly commended itself to the judges. Several other prints were submitted by Mr. Heydenreich, all of which were good, but none showed the same excellence as his winning picture. Some of the



A WINTRY PATH

Wm. S. Davis

Third Prize in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.



THE LAST SNOW

J. H. Field

First Honorable Mention in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.

others were a little too soft in effect and elusive, and would not reproduce as well as this weathering the storm.

The Third Prize goes to an old and successful competitor of THE PHOTOGRAPHIC TIMES for his "Wintry Path," which is a beautiful picture by straight photography, made in an ordinary country woodland, but selected with rare artistic skill which characterizes all of Mr. Davis' pictures. "A Wintry Path" was made on a late afternoon in February, about four o'clock, in the clear sunshine, and with an exposure of two seconds, stop F/22, with an R. R. lens of $7\frac{1}{2}$ inch focus, a 4×5 Wellington Anti-screen Plate, backed by an Ingento "A" Ray Filter, used for color correction. The print submitted was on $6\frac{1}{2} \times 8\frac{1}{2}$ Enlarging Cyko Paper, studio surface. Mr. Davis also

submitted several other prints, of surpassing interest and excellence, one of which we would have been very happy to reproduce, but for the effect of its charming elusive qualities would not adequately appear in the half-tone engraving.

The print to receive First Honorable Mention is "The Last Snow," by J. H. Field, another successful competitor in former PHOTOGRAPHIC TIMES Print competitions. This picture is a very charming winter scene, arranged with artistic skill, and well carried out. The figure at the boat is properly subordinate to the landscape, but, at the same time, fits in the picture as though it belonged there. We think this picture would have been considerably improved if part of the foreground had been cut out; it would have improved



Clear the Track Carl Peterson
Second Honorable Mention in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition

the shape of the picture as well as the composition. This print was made from a negative with a Premo "B" camera, Cramer Iso Plate, enlarged on Carbon Black Paper. Other pictures of Mr. Field's showed merit, but, in one case the atmospheric effect was a little over done, which would prevent its being adequately reproduced. The over-softness may be accounted for by the very early hour in the morning—7:30—when the negative was exposed.

Second Honorable Mention was awarded "Clear the Track," by Carl Peterson, who has also been successful in former PHOTOGRAPHIC TIMES' competitions. This is a very pleasant picture, of children full of action, and well executed. It was made in January at noon, on a bright day, with 1/50 of a second exposure, on a Hammer Plate.

Third Honorable Mention is made of "Whitehouse Mountain," by Frank

A. Rice, who was successful in former competitions. We think this fine picture could have been improved by judicious trimming, which is also true of other pictures submitted in the collection by Mr. Rice. "Whitehouse Mountain" was made with a 3A Kodak, 1/25 of a second exposure, at F/8, on a bright, sunny day in January; a ray filter was used, and N. C. film; it was printed on enlarging Cyko Paper.

The Judges, after careful deliberation, awarded High Commendation to Mrs. Wilma B. McDevitt for her print entitled "Capitol Grounds in Winter;" to Earl Hovey, for "The Park in Winter's Garb;" to A. C. Smith, for



Whitehouse Mountain Frank A. Rice
Third Honorable Mention in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.



THE CAPITOL GROUNDS IN WINTER

Mrs. Wilma B. McDevitt

Highly Commended in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.

"Grandfather's Place;" to Edwin A. Roberts, for "February Morn;" to William Ludlum, Jr., for "Morning Shadows." The Judges also favorably mentioned prints submitted by the following contestants, but could not recommend them for prizes, Honorable Mention or High Commendation: I. A. Phalen, Jr., W. R. Laity, Miss Alice Willis, J. W. Schuler, W. L. Sanborn, M. J. Goodwin, Jr., J. McCartney, Miss Florence M. Uhl, E. D. Leppert, H. J. Weber, John M. Kinney, R. A. Fulton, R. L. Walker, F. J. Aldridge.

The Judges wish to acknowledge the merit of three pictures by Miss Belle M. Whitson, which were not considered in awarding prizes because the subjects were not strictly winter

scenes, being devoid of snow or other characteristics of winter, they might have been made either in the spring or autumn.

To all those who competed, but did not succeed in receiving any award or favorable mention by the Judges, we offer this consolation, that our next competition will be an open subject, confined exclusively to novices, those who have never taken a money or other prize in any of the contests conducted by THE PHOTOGRAPHIC TIMES or any other photographic publication or exhibition. In limiting this contest to the novices, we hope that our former prize winners will not think that we are drawing the lines too closely, for it is not our desire to debar anyone from competing in these print contests ;

THE PHOTOGRAPHIC TIMES

but rather to encourage and stimulate those of our readers who may have been timid in coming forward with entries in previous competitions. It is natural for such to think that their work may be outclassed by the more experienced and older workers, and that is often the case; but we are sure that there is a great deal of talent

which has never yet exhibited itself in public, and it is our hope to give this opportunity for all such unknown photographers to show their work in this forthcoming contest. Choose your own subject, and send in your print, or prints, with confidence. Your work will be given careful consideration, and fair and impartial judgment.



GRANDFATHER'S PLACE

Edwin A. Roberts

Highly Commended in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.

AN AID TO BETTER PICTURES

BY BAYARD BREESE SNOWDEN.

EVERYONE recognizes that composition is one of the amateur's biggest problems. When the technical processes of exposure, development, and printing have been correctly carried out, the question still remains as to whether the picture is worth looking at. And the number of instances in which we must decide that it is not is sometimes depressing. In one case we feel that the details are jumbled together too much. In another the angle of view proves to have been a poor one. And in a very large number of instances we simply feel that we have failed to handle the subject in a satisfactory manner. All this is likely to be true not only of

purely pictorial efforts, but of ordinary record photographs as well.

There are, of course, many rules of composition the application of which will help us to improve. The trouble is with the application; rules are easy enough to learn, but not so easy to apply in particular cases.

There is, however, one path to improvement which is open to us all, and this path goes back to the first principles of education—the path of imitation. The amount of knowledge and efficiency gained through imitation is simply incalculable.

What is the point?

Well, we read a great many monthlies, weeklies, and dailies. These are



FEBRUARY MORN

Highly Commended in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.

Edwin A. Roberts



THE PARK IN WINTER'S GARB

Earl Hovey

Highly Commended in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.

full of half-tone reproductions of photographs. (Take merely the Sunday paper as an example.) Now, considered by and large, most of these photographs are successful. They may or may not represent the highest principles of art, but they do represent experienced handling of the type of subject shown. For example, I turn the pages of *The Country Gentleman* and find half-tones of cattle, horses, poultry, farm buildings, etc. And I feel in his arrangement of details, etc., the photographer has shown excellent judgment.

Obviously, by studying such work we can greatly improve our own. But the improvement will not be great unless the study is systematic and fairly close. Except for those of us possessed of unusual memories, casual examination of the countless photographic reproductions that pass before

our notice is not likely to yield any large fruitage in our own methods of attack.

These reproductions, however, provide the material for a systematic method of study which is open to all, and which is exceedingly simple. This consists of clipping from the newspapers and magazines those pictures which may contain a suggestion for the treatment of similar subjects whenever occasion shall arise. The clipped half-tones may be filed in whatever manner seems most convenient, or they may be pasted into a scrap-book at small expenditure of time and effort. They then become a mine of almost inexhaustible suggestion, and extremely valuable.

While imitation is the basis of such a method of improvement, that is not by any means all there is to it. In almost no instance will absolute imita-



MORNING SHADOWS

Highly Commended in THE PHOTOGRAPHIC TIMES "Winter Landscape" Print Competition.

Wm. Ludlum, Jr.

tion be possible. Any picture we choose to make will vary in its elements from the model we admire. But at the same time the model will serve to point out certain desirable arrangements of lines and masses. For instance, look at this war picture I turn to. It is clipped from the rotogravure section of the *New York Times*. A body of German artillery is shown winding through the narrow street of a French village. Though such a pictorial opportunity will never, probably, be mine, yet study of that excellent model may help me a whole lot the next time I attempt to photograph a procession. To such an extent imitation enters into practically all successful art, whatever its nature, and is not by any means preventive of originality.

The practice of culling and preserving half-tone illustrations will, how-

ever, do much more than indicate judicious methods of treatment for definite subjects we are likely to have in mind. It will also suggest other subjects. Where we have got into a rut, running to a certain kind of view almost habitually, the half-tone scrap-book will call our attention to other kinds of pictures on which to try our hand.

Not in a cut-and-dried fashion, either. In many cases the pictures we thus achieve may not resemble the half-tone pictures at all, the latter have acted merely as a starting point for our pictorial imagination. For example, I have before me in my collection a peaceful country view, with a herd of cows contentedly taking their undisturbed siesta. The picture which this suggests my making is totally different—it is one of some cattle ploughing along a dusty road to the local cattle

market, or, it may be, a milking scene. The human mind is peculiar; it jumps from one idea to another. But there is always a connection. To return to the figure of speech, it always jumps from some starting-point. And for pictorial purposes such a starting-point

is well supplied in an old-fashioned scrap-book of miscellaneous views. Originality is the thing, but originality must have subject-matter on which to play. The scrap-book opens up the subject-matter, and suggests more varied opportunities for pictorial effort.

SOME COMMON MISTAKES MADE BY BEGINNERS

With Seven Illustrations

BY C. H. CLAUDY.

NOTICE I say "some" in the title. The whole magazine wouldn't be big enough to report *all* the common mistakes of the beginner!

But the mistake is a useful thing, in spite of its spoiling of good work. For only by making them can the individual learn to do without them. No story that was ever written, no lecture ever delivered, no instruction, no matter how expert, can ever take the place of Experience, spelled with a capital E. All that he who has passed through his novitiate can do, is to point the way and show what the mistake is, and how it was made. No line in this story is intended to prevent you from making a mistake if you want to make it—merely to show you *why* certain things are mistakes, how to recognize them as such, and how not to make them, next time!

I suppose the atrocity shown in Figure One is about the most common and the most costly mistake made by the beginner, the advanced amateur, even the expert. Its name is UNDER EXPOSURE. It comes from trying to make a picture in less time than the conditions will warrant. If the con-

ditions can be altered—that is, if the small stop can be replaced by a large one, or the dark day waited upon until it gives way to a bright one, well and good. If the conditions cannot be altered, then the exposure must. The remedy for the fault of under exposure is "more time." The remedy in the individual case is "throw-it-away-and-try-again."

It is under exposure which makes white things more white than they really are, and dark things more dark—at least, under exposure combined with that forcing in the development which is the beginners universal remedy for his fault of exposure. That



Figure One



Figure Two

it is *no* remedy, such a chalk and soot example as Figure One shows only too plainly. Sky, roof, wood, field, back of sheep—all dead white paper!

Figure Two is suffering from OVER EXPOSURE. It had *more* time than was needed. The negative flashed up quickly in the developer. The frightened beginner grabbed it from the developer. When it was fixed it was thin—painfully thin. The sky printed black, the snow printed a dismal gray and what was in nature a bright and attractive scene becomes, *via* the road of over exposure, a result painful to look upon. Intensification will improve it, but not all the intensifier that ever came in bottles will make of this as good a picture as a better exposure would, in the first place.

While these are the two commonest errors, I am passing them by without further comment, because they are so constantly treated by every writer who

attempts to help the beginner find his photographic legs. I would rather draw attention to those equally common but less published mistakes, such as Figure Three.

Now, there may be, in the outer limits of the cosmos, a planet where Figure Three would be esteemed beautiful. Not having been to such a planet I cannot say it would not. But I can say and do say that nowhere in *this* planet, where the difference between beauty and gingerbread is understood, would Figure Three get any applause.

Not that the peaceful little water-scape is not, in itself, inoffensive, even placidly pretty in a gentle, characterless way. It is the “ornamentation”—the “frame,” the “fancy matting” which “adorns” it which arouseth my ire!

What good is it? What does it profit the maker to put a hodge-podge of lines about his picture, like this? If it was an actual frame it would be horrible enough. But when it is only a make-believe frame, and a very ugly one at that, it has less than no excuse for being.

The eclipse, the circle, the square, the oblong—they are the conventional, accepted shapes for pictures. Only in exceptional instances, and usually for purely decorative and not pictorial purposes, can their use be foregone. Decoration of a picture by fancy edging is about like tying paper rosette on the rose, sugaring the oyster cocktail or embellishing the violin solo with an accompaniment played upon the dinner bell. Don't do it, friend beginner—don't buy the fancy mat, the ornamental edging, the scalloped



Figure Three

embellishment! If your print isn't pretty enough to appeal on its own account, no "trim" that you can give its edges will ever make it so.

And don't mistake fuzz and a fancy mount for art. Oh, the sins, the crimes, the atrocities, which are committed by the amateur who sees a broadly treated photograph and seizes upon its treatment and not its spirit as being Art, with a capital A, this time! It is that misapprehension of what is really, truly artistic, which results in little jokes like Figure Four. As nearly as can be said with certainty of so vague a print as this, it has been printed from the rear, and was as flat as a pancake which had been a footstool for an elephant in the first place. The white edge, the brown undermount and the grey final mount are, supposedly, the last word in "artisticness" but the entire result is of that stuff from which contributions to *Life*, *Puck* and *Judge* are fitly manufactured.

Ah, well, it takes all kinds of people to make a world, and it would be very stupid if we all thought alike, and worked alike and made photographs according to the same rules. Variety is the spice of life, and so we have funny little pictures like those shown, and tragic little near-successes like Figure Five, in which Pussy is admiring herself in the glass or kissing herself, I am not quite sure which.

There is the material for a very cunning picture in such a composition as this—indeed, any well made picture of an animal is likely to prove attractive, and an animal doing something—such as looking at itself in a looking glass—may easily be very specially attractive.

But!

Why is the looking glass on the floor, on the fur rug, where Pussy can so easily get at it to admire herself?

I pass over the fact that the picture is under-exposed, that the background is confused, and that Pussy's reflec-



Figure Four

tion looks somewhat as if she had been rudely awakened by having a looking glass dropped suddenly down in front of her. Those things are remedial by another trial. But what excuse is there for the mirror on the floor? Why is this picture any more cunning or interesting than a picture of the cat held up by main force in front of a mirror?

It isn't!

A *genre* picture must be natural. It must look unposed, whatever it really is. If pussy looks at herself in a mirror, it must appear that she climbed up on a table or bureau or something handy, for the purpose—unless a long mirror, which *naturally* reaches the floor is handy. A picture of puppies fighting over a bone, makes a good subject, OUT OF DOORS. But when they struggle over a bone on a sheet

in the parlor, we see the wheels go around, and it doesn't interest us. Having a pose look posed is a very common sin, indeed, and the beginner does not confine it to his animal sitters, either.

Don't photograph cats and dogs, as a beginning. When you do photograph them, make their portraits first, *genre* pictures of them later. And when you finally get to the genre, see that it fits, and that there are no observable impossibilities staring out at you, to be reproduced in the photograph.

You must know something more than which lever to press, which slide to pull, which chemical to use, if you would make a beautiful photograph of the materials which in themselves have only ordinary beauty.

Tulips are beautiful. A vase may be beautiful. A table top may be beautiful. But that does not mean that



Figure Six



Figure Five

tulips in a vase on a table top will make a beautiful flower picture—see Figure Six for proof.

One wonders what the white, cone-like thing is, to the right. One wonders why the case is way off the left of the center—is it the “new art?” One wonders why the flowers look like chunks of putty and who threw them into the vase. It’s a dandy vase, though—see the detail in the fleur-de-thingumbobs on the sides! Bah!

Flower photography needs something more than flowers. It needs common sense—it needs some beauty of arrangement. It needs some sense of what is tasteful as to containers. It needs some sense of light and shade, which would prevent so hard and harsh an attempt as this. Flowers are among the beautiful highlights of life. To portray them as sombre warts upon a mourning wall is to make the camera blaspheme, and while we all have to try and try again, we don’t have to

finish up and show such horrible examples of how not to do it, as this! If you cannot arrange or have arranged, your flowers, so they are graceful—if you cannot work with a well diffused, yet softly brilliant light; if you cannot do without the dark shadow and the harsh modeling—then go photograph the back yard fence or the neighbors taxicab and leave flowers for more experienced days in the future.

Well, I might run on forever, but I have a notion you are weary of a catalog of photographic sins and would have me stop. So I will just draw your attention to Figure Seven, and ask you what you think of it. After you have fully made up your mind whether you think it is bad or good, I’d just as soon tell you that as a photograph it is all right, but as a piece of arrangement it is all wrong. And if you want to know why, just ask yourself this question—why should a man

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get on the other side of a bed and deliberately photograph a catcornered piece of it? And then you can lay it down as an axiom to which there is no exception that I know of save that dictated by absolute necessity, that in interior photography it is never right to have cut-in-half furniture for the entire foreground!

There are seven common mistakes out of seven hundred—or is it seven thousand? You can find them in your own pictures if you look, or if not these, others fully as bad. At least I hope you can, for by their mistakes ye shall know whether they have room for improvement, and only by your mistakes can you learn.

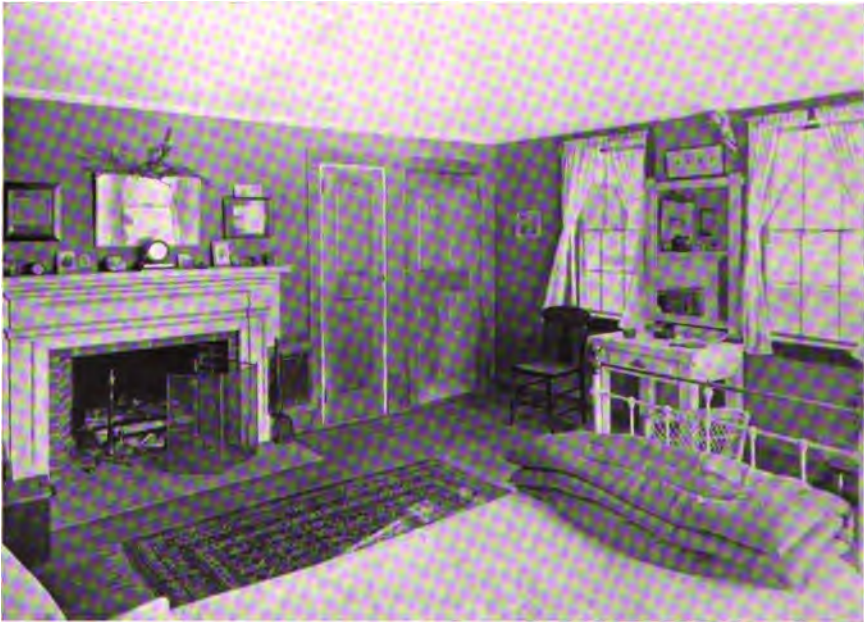


Figure Seven

PHOTOGRAPHING INSECTS

With Eleven Illustrations

BY DR. R. W. SHUFELDT



HERE is a no more interesting department of biological photography, nor one wherein more valuable results may be secured, than obtaining pictures of insects through the use of the photographic camera. Moreover, this line of work very frequently requires unusual skill; an all round knowledge of entomology, and a great familiarity with the use of the camera. Then, too, there is often a lot of out-of-doors work associated with it, and this is of immense advantage; for when one keeps constantly out in the fresh air, and uses one's hands and wits with the object in view of obtaining useful results, one is a long ways on the road leading to robust health, genuine happiness and generally to ultimate prosperity and fame.

When I speak of the photography of insects, I do not refer to the altogether too common practice of using a small, cheap camera; getting "snap-results" on every bug one runs across in the country, and then, perhaps, making a photo-album of the prints from the film-negatives, developed at the little photo-shop 'round the corner. Work done in this way soon comes to an end, and the results are of purely an ephemeral nature, soon passing out of sight, leaving no permanent record behind.

What the young entomologist should

aim to do is to obtain, by the use of the proper kind of camera, armed with the best kind of a lens for the purpose, a series of photographic pictures, illustrating the best known and most interesting insects in the country districts where he lives. These will not include spiders, as spiders are *not* insects, but it will include many that enter our homes and barns, and may be studied with great advantage by the young naturalist. If possible, these studies should always be made *natural size*, and include surroundings which give one some hint as to the habits of the



The Grapevine Beetle or Spotted Pelidnota
(The original print submitted for this was beautifully colored. A panchromatic print does not bring out all the values in reproduction.—Ed.)



Horn Beetles

Fig. 1

insects photographed, or perhaps something else that may refer to its history. As examples of what I mean, I may suggest photographing a cicada emerging from its shell; a moth as it comes out of its cocoon, and another picture of both a couple of hours afterwards; paper-nest wasps building their nest, and so on for a great many others. A neat note-book should be kept, giving the full history of each successful result along this line of work. Such a book should record the time and place where the picture was obtained; the date; the size, as compared with the specimen taken; the vernacular and scientific name of the insect; its sex; appearance of its young, if obtained, and, finally, as full an account as possible of its habits.

My meaning can, perhaps, best be made clear by the following example of such work. On the 20th of April last (1914), Mrs. Shufeldt and I were passing through a beautiful piece of woods near Washington, D. C. Across one of the paths we took there had fallen, in a storm, several years before, a big chestnut tree. As is always the case with

this timber, decay had rapidly set in, and great sheets of bark could be ripped off the trunk with very little effort; beneath this, what was formerly solid wood, could now easily be crumbled with the hand. As I did this, several species of insects, usually found in such places, tried to scurry out of sight, and it was not long before I had collected five or six specimens of the not very common horn-bug, the scientific name of which is *Passalus cornutus*. This is an elegant species of beetle, nearly an inch and a half long, and the name *cornutus* has been given it on account of the prominent little horn which protrudes forward from the middle of its head. It is of an intense black color, and so shiny or glossy that it exhibits the high white lights in almost any position in which it is held.

This horned passalus is a relative of the common stag-beetle, with which most young entomologists are familiar. The larvæ of both these insects feed upon the decaying wood where they are found; but they are not responsible for



Fig. 2—*Papilio ajax marcellus*.

the death of the tree,—a charge which, with justice, may be brought against some other species of insects.

So much, then, for the names, date, place where found, and so on, as notes upon this beetle.

Not having a camera with me on this occasion—as we were out for early spring flowers—I captured some five or six of these big insects, and filled a paper bag with the rotten wood in which they lived. These were taken home with us, along with other things we collected on that tramp, for we collect specimens of all kinds the entire year 'round, for the purposes of photography and study. My beetles were kept a day or so in a large glass jar for observation; and one morning, the light being favorable, I

made a 5 x 8 negative of them, the size of life. A print from this is here reproduced as an illustration to this description and to complete my brief account of this horn-beetle. It is published for the first time; and, as a matter of fact, no picture like this one has appeared before, giving three of these beetles, natural size, practically in their normal habitat. As we often find the common snail in such places, I introduced one of them into my picture. After I was sure that my negative was a perfect one, I placed the insects in alcohol with the view of presenting them to some museum, where they have not, up to date, been added to the collection.

So much for the young naturalist in this field; the time will come, however, later on, when a carefully made collection begins to assume the proportions of a small museum, the photographs fill several volumes, the notes taken in the field and study would print a book on the subject, and the matters of time, cost and care of the collection and other things must be taken into consideration. Then, too, such a one as I have in mind has usually brought together a mass of very valuable information, which it has probably taken years to accumulate and digest properly, and it becomes nothing short of pure selfishness if such knowledge is not placed at the disposal of his fellow men. Indeed, in my estimation it is a mark of good citizenship for such a person to publish what he has accumulated in this way, allowing the world to have it, even should it be an expensive matter for him to do so. Between the state of things representing this stage

and the one described in the first part of this article, there is always a time of variable duration—depending on the capability of the individual—when much time, labor and expense can be saved through studying the experiences of others in this sort of work, and by taking advantage of them if, in any way, they prove to be of economic value in the matters just mentioned. No good naturalist minds labor, especially as health and pleasure constitute at least two of its important results; while on the other hand, no naturalist of ordinary means can afford to waste either time or money.

Photography, as applied to the class of work I have attempted to describe, is by no means an inexpensive pursuit, and failure to realize a high percentage of successful results in the way of securing negatives of positive scientific value, it goes without the saying is a dead loss of time and costly material.

Perhaps some of my experiences and observations may be of service in their work to the class to whom I refer and it is this possibility which has induced me to prepare the present article. In biological and nature work, I have, up to the present time, used a photographic camera for well nigh a quarter of a century—not from time to time, but constantly. I have made several thousand dry plate negatives of animals of all kinds, and I have published the large majority of them. My experiences in these fields, then, has been far and away ahead of most working naturalists of my time—a fact I merely mention by way of explanation for my making the present contribution to the subject.

Photography, as an adjunct to the



Fig. 3—Saddle-back Caterpillars.

study of insects, may be applied in a number of ways. It may be employed in connection with the microscope, to obtain micro-photographs illustrating the histology of insects or their minute anatomy; it may be used to secure accurate pictures of museum specimens of insects, as we find them in entomological trays and cases; it comes powerfully into play when we essay to study the life-histories of insects, their metamorphoses, their development, and various allied researches. It is employed in the field and in the study, to secure pictures of insects as they are found in nature, and to illustrate their habits, their modes of life, their advantage or disadvantage to man and other animals; to secure negatives for lecture purposes and the motion-picture machines, and to meet numerous other demands, as those falling within



Fig. 4—Common American Locust.
Fig. 5—Katydid.

the spheres of economics, general medicine and various other departments.

Then there is to be considered the question of color-photography, and the making of photographs of all kinds of insects for the purposes of publication, enlargements for school and college charts, and so on. Indeed, the application of photography to scientific entomology in its entirety is truly a very wide one, and it is obviously out of the question to treat of all these various branches in a brief article like the present one. Still, many of the principles governing the application of photography in any of these branches are the same throughout; it must remain with the student to properly apply and adjust them to his needs.

What I intend to confine myself to here is the matter of the scientific photography of ordinary insects as we meet with them in nature, and with the view of obtaining photographs for publication. It is presumed that the reader is familiar with the use of the camera and with the making of negatives. When I say camera, I do not refer to one of these snap-shot affairs with no tripod, incapable of taking anything beyond a picture the size of a postal card.

I never take anything on a plate smaller than a 5 x 8 even though it be but a single small grasshopper or a cabbage butterfly. In general, there are two conditions under which insects are taken, and these are, first, where they are photographed just as we find them in their haunts in nature, and, second, where we capture them and carefully transport them to the study to take their pictures. In some cases they cannot be transported, as for example, should the subject be the large orb-web of a garden spider, with its builder at home and occupying his usual place near the center. Such a subject, and many others of the kind, must be photographed *in situ* absolutely. On the other hand, while we may be able to photograph some species of butterflies, bees, and a great host of similar forms, where we find them in the woods and fields, still, it is often quite impossible to do so; as a consequence they must be captured in one way or another, and taken home for the purpose.

One soon acquires a knowledge of all this, if the pursuit be one constantly followed. We may very often obtain a superb photograph of an em-

peror moth as it rests upon the dark bark of some conveniently situated tree, while to obtain the restless Tiger Swallowtail butterfly (*Papilio turnus*) under the same or similar conditions, would not happen twice in a life-time. In fact, it remains but to capture such an insect, carefully close its wings together, consign it to an envelope of proper size, and bring it to your studio for its photograph.

In most cases I prefer to bring insects home to get my negatives of them, for they may be studied better there. The light is controlled with far greater certainty, and I am more certain of success. Moreover, if, after developing your negative, it is found to be unsatisfactory for any reason, it is an easy matter to make more exposures until a desirable result has been attained.

One of the chief things to be taken into consideration in photographing insects anywhere in nature is the *light*. This varies for the time of the year, for the time of the day, and for the place and position of the camera.

Then it makes a great difference whether a big, *shiny*, black beetle is the subject, or a dull gray moth, resting on some object which offers sufficient contrast for a picture to be hoped for. In the first case, half your beetle may photograph pure white, while in the second, if proper steps are taken, a beautiful negative may be the outcome of the exposure.

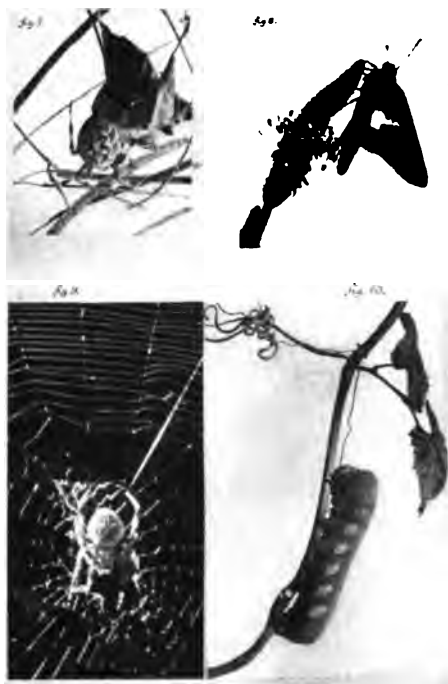
In my studio I have my cameras (5 x 8 and 8 x 10) arranged in such a way that I can take either a direct vertical picture, or one perfectly horizontal, or at an angle above or below the latter. Those taken perpendicu-



Fig. 6—Light Colored Caterpillar with wrong background.

larly are frequently very satisfactory, and of recent years I find that I am more and more inclined toward the making of my negatives in that way.

About a week or so ago, I was on the low Maryland shore of the Potomac River, just above Washington. Over a little muddy place there I observed two beautiful specimens of that superb American butterfly the *Papilio ajax marcellus*. They were very restless, but kept alighting from time to time. One of them was unusually perfect, and after a few attempts I succeeded in catching it with my fingers as it lit on the mud. It would have been simply impossible to have gotten that butterfly on that black, shiny mud, in the full glare of the sun, even if the camera could have been placed properly for the exposure. Indeed, for various reasons it was entirely out of the question. Although several miles from home, I got that insect there in as good a shape, in



Figs. 7-10—Examples of insect photography.
Right and wrong way to take a spider.
Difficult butterfly picture. Caterpillar in
nature.

every respect, as it was when I caught it. Not only that; for, by putting a light weight on its closed wings, it was equally as fresh and good next morning, flying around the room when released. There were no flowers handy on this occasion; so I arranged a few seed-pods and other dried stuff for it to alight upon. When these were properly focused, I induced my butterfly to alight on a bit of a stick, and, after a dozen or more trials, I placed this stick along with the others in the bunch. He opened and closed his wings many times, but finally became perfectly quiet. I then squeezed the bulb and got the result here shown in the illustration. I have another photograph of this specimen equally as

good, taken on direct lateral view with the wings closed.

On account of its great restlessness, a very difficult butterfly to photograph is the "Golden-banded Skipper," known in some localities as the "Buck" (*Achalarus cellus*). I was over two hours one day getting the picture here shown of this beautiful little butterfly (Fig. 8), and during the operation nearly every principle required to obtain such a result was brought into play. The negative for this photograph is a five by eight size, and gives a fine bunch of the Common Plantain (*Plantago major*), on top of one of the spikes of which the butterfly is resting. One frequently sees this insect light on these spikes in nature, so this fact carries out the natural. A pure white background has been attained by the use of a large sheet of white cardboard, placed in the rear of the subject at the time the exposure was made. The specimen is an *adult male* in *perfect* condition, and it lit upon the spike just as though it had been out-of-doors. It is viewed from a point that exhibits the *greatest number of characters*, such as the hooked distal ends of the antennæ; the color pattern of the inferior surface of the wings which is *diagnostic of the species*; the positions of the legs which are perfectly normal, and the *natural pose* of the specimen as a whole.

Some insects are very easily taken indoors, and beautiful results may readily be obtained with them. If handled properly, they are quiet, and will assume perfectly natural poses. Others are eternally restless, and many of these I obtain with the camera in

the vertical position, the white background below, a pane of glass parallel to it, supported above at a distance of some six or eight inches. These restless varieties can be placed on this glass and covered with a little box until they become perfectly quiet, when the box is gently lifted and the exposure duly made, the camera having been previously focused. Sometimes this is the only possible way to get such subjects.

The matter of backgrounds is a very important one. Dark colored insects should have, as a rule, a light background, while paler forms should be given a darker one. This principle is well exemplified in the case of the two caterpillars shown in Figs. 6 and 10 of the present article.

In Fig. 5 we have a well-known spider—the triangle spider (*Hyptiotes cavatus*), which was taken indoors; while in Fig. 9 there is another species, taken in a very brilliant but wrong light out-of-doors. Here a black velvet background was used in order to show the web; but the result

is a failure, and the species is hardly recognizable. These examples are given in order to exemplify such mistakes, and as warnings whereby expensive material in the way of dry plates may be saved.

For purely scientific illustrations, to be used in works of reference, the simpler the pictures are, the better. If possible, the insects represented should always be of natural size and perfect in all particulars. They should be in natural poses, and if it can be attained, exhibiting some common habit they have in nature. Plants upon which they feed can be shown, as well as eggs and young at various stages. All superfluous accessories should be eliminated entirely by the proper use of backgrounds.

To obtain results of the highest class requires an immense fund of patience, applied observation, and knowledge of all the requirements on the part of the entomological photographers; without these very little can be achieved in this important branch of zoölogical technique.

MY EXPERIENCES WITH A VEST POCKET KODAK

With Ten Illustrations

BY BURTON H. ALLBEE.

ACTUAL use of a camera demonstrates its value. The type which can be successfully operated by one person may offer problems of manipulation to another and to a third be utterly impossible. This observation may apply with more or less force to most, yet always some reservation should be made. A few

cameras have been so made that the veriest tyro can operate them with reasonable assurance of success. The experienced worker ought, therefore, to be ashamed of such failures as he may make. But if this phase of the subject more later.

It is quite unnecessary to enter into any argument to prove that the vest

pocket Kodak is an efficient instrument. Every user of a camera will know that without further discussion. Efficiency epitomized and simplified, and he who cannot obtain good negatives with a vest pocket Kodak would probably have some difficulty in operating almost any camera.

For years I used various types and makes of large cameras; but as I advanced in years, and long tramps acquired something of the character of work it needed a liberal supply of enthusiasm to induce me to make my accustomed excursions. Then came the Vest Pocket Kodak. Immediately all difficulty vanished. It enabled me to secure quite as satisfactory prints, at a fraction of the money cost and with none of the fatigue. What more could any person desire? Is it too much to consider the miniature camera as an emancipator? The enthusiast who has been compelled for years to tug a large camera around will think he has entered Arcady when he sallies forth with one so small he is likely to forget which pocket contains it.

I confess that my faith was no more voluminous than a grain of mustard seed, but when I developed the film I discovered that even the little faith had enabled me to move mountains. The negatives were clear, crisp; the planes were well separated and the gradation of tone left nothing to be desired. Where, then, could one hope for further improvement? Obviously only one firmly wedded to the past would have looked for anything better. Yet I could not escape from the subtle influence exerted by that one element of size. Mere expanse appeals strongly to all who admire, or make,

pictures, with few exceptions, and that same element still persisted in its influence. You remember the old poem says, "You may break, you may shatter the vase, if you will, but the scent of the roses will cling to it still." Years of tradition and the influence of actual practice were badly shattered, but that did not prevent clinging, in some degree, to the discredited methods, and this was undoubtedly the basis of the surprise that the little negatives were so good.

Then came the making of the prints. That really wasn't much of a task. Contrast, glossy gaslight paper will yield an admirable print. Obviously most of the beauty of a little negative lies in its wealth of detail. Broad, sketchy effects are impossible. One must enjoy the prints as they are, not as he might make them if they were larger. Yet, even though one may at first feel disposed to compare them with larger prints, to the disparagement of the small ones, ultimately one will come to love the little prints, and will feel again something of the interest he felt when he sallied forth with his first camera under the impression that detail represented the highest achievement in picture making.

A suitable album, with the little prints arranged either by trips, which seems to me the best way, or by subjects, if one prefers, offers an hour's delightful entertainment. Printed with a mask so as to leave a white margin and mounted in an album with carbon black leaves these little pictures have a beauty which is all their own, and when once that bugbear of size can be shaken off and they are permitted to display their beauty without



1. Large Tree



2. Tree in Front



3. Tunnel Entrance



4. Street Scene



5. River Scene



6. Wide River



7. Tree in Front



8. River Scene



9. Tree in Front



10. Tunnel Entrance

being compelled to compete with prejudice, one may enjoy the miniatures quite as much as he enjoys the magnifications which are the result of tugging a heavy camera while on a trip.

Still one more shock is to be experienced by him who begins work with the miniature. Assume that out of a roll of negatives he selects two which he likes so well he wants them enlarged. He gets out his enlarging outfit and throws the image on the screen. He looks at the little

negative, $1\frac{1}{8} \times 2\frac{1}{2}$ inches, and with a good deal of hesitation experiments with a 5×7 screen. That astonishes him. Next the picture goes up to $6\frac{1}{2} \times 8\frac{1}{2}$ inches. No difference. And so he goes on up to 10×12 inches, or in some instances, 11×14 inches, and the enlargement is, in each instance perfectly satisfactory. He finds that the problem of actual enjoyment by elimination of laborious effort is solved. The miniature film has settled for all time the question which has so often confronted the worker. All

his strength is left for his enthusiasm. He doesn't have to waste it acting as porter.

Suppose just a glance is taken at some of the interesting things the worker has learned. First, he is able to go about in comfort. He puts his little camera in one pocket, and his films in the other. He enters street cars and sits down without exciting the interest of all the passengers with his carrying case, his tripod, and a few other things the manipulator of the large outfit must have.

He is able to secure numerous interesting bits which no large camera could possibly take, and he is always ready to catch something quite impossible if he were compelled to stop and unlimber the larger and more complicated apparatus.

He can enlarge up to any reasonable size and be certain of good pictures, with full gradation, and when large sheets of rough paper are used he gets the broad, sketchy effect which picture makers so dearly love.

And last, but by no means least, the expense of maintenance is so much reduced that the pleasure is largely increased. It would be difficult to develop any more satisfactory scheme of things than this.

To be sure mistakes can be made, with even a miniature camera. In operating the Vest Pocket Kodak it will be found to be what might be termed an instrument of precision. When one looks in the finder, which is large and brilliant, one finds that it is made to use both horizontally and perpendicularly. Sometimes the operator will want to get in just a bit more of the top of something. If he

allows the lower portion to drop below the line he will find it amputated in the film. And the reverse is true. If he drops it so the top of the object falls even the slightest above the line he will find it decapitated in the film. An accompanying illustration shows the effect of raising it too much. The operator must step back until the image shows complete in the finder. It is impossible to compromise without performing amputation in some way.

When using it for perpendicular pictures it is useless to go skirmishing over the side lines, which are plainly marked. Either one side or the other will suffer. This is what comes of attempting to operate a camera of precision in the same haphazard way that one sometimes operates others.

These mistakes need not be numerous. One or two should be sufficient to teach the needed lesson of care in using the finder, but I must confess I have not learned it yet. On the last roll I developed one was cut at the bottom; another at the top. All carelessness, of course, emphasizing the great need of watching what is undertaken with the greatest care. A fraction of an inch out of the way and the film is spoiled. But don't blame the camera. Watch the finder more carefully next time. It will be found in a majority of instances that the object has not been properly centered, hence the image of it on the film has been sliced in some way.

Development is easily performed with the tank that is made for the film, and the expense is slight, too small to be figured. No instructions are needed for the proper develop-

ment of films in these days. The experience is in the tank, and he who does not use it is clinging to old misconceptions so persistently that it is a puzzle how he ever came to adopt a miniature camera.

In making the prints use P.O.P, or glossy gaslight or bromide paper. It is best to buy the $3\frac{1}{4} \times 4\frac{1}{4}$ size and cut it in the middle the short way. Each of these halves is large enough to make a print and leave a white margin. Generally contrast glossy is the best grade to use, but sometimes normal glossy is the best. It is well to have a supply of each, and the cost is so small that it will not overtax anyone's pocketbook to purchase both emulsions.

If one doesn't care for the white margin three can be printed at a time on a 4×5 sheet and the loss is very small. If time is an object this is a good way, but if not one print at a time is quite satisfactory. It seems small, of course, but if one is to obtain the best results from the miniature camera he must learn to treat it seriously. If it will give satisfactory prints up to 8×10 , or 10×12 , why should not the same care be exercised as in using the large camera? No one would do promiscuous snap-shotting with a big camera.

One may do one's own enlarging. I bought an Ideal B. outfit. It uses a Welsbach mantle for a light, but any other light can be purchased. The condensers I have are suitable for anything up to 4×5 . Put the little film on the 4×5 glass; lay a $3\frac{1}{4} \times 4\frac{1}{4}$ glass over it, centering both the film and the cover glass. Snap two rubber

bands on to hold the small glass in place and your troubles are over. It is impossible to use two 4×5 glasses for the buttons which hold the negative in place will turn only one thickness of glass.

Lantern slides can be made from the little films by enlargement. Put the slide plate in a $3\frac{1}{4} \times 4\frac{1}{4}$ printing form and place the frame on your enlarging easel, either by means of pins, or hooks. Enlarge it to take in all the film, or if the composition is capable of improvement by including only a portion of the enlarged picture, that is easy, too. The exposure will not vary much from bromide paper.

The last question which will appeal to some is that of possible use for illustrations. A clear, sharp film can be enlarged up to 5×7 without loss. I have sent out a good many which have been used by publishers who apparently thought them contact prints. It requires a magnifying glass to disclose any falling off. Better use contrast grade, glossy bromide paper. Anything else will not give you the clarity you want.

The man who is searching for interesting subjects with which to illustrate an article or a lecture can take a Vest Pocket Kodak and get whatever he wants. I am today preparing a lecture to go into several courses next winter and every slide is from a Vest Pocket negative, enlarged on a plate as described.

Emancipation from the terror of the large camera is worth while. Experiment with a Vest Pocket Kodak will convince the most skeptical that this emancipation is here.

PICTURESQUE GARDEN POSES

With Four Illustrations

BY BURDETTE C. MAERCKLEIN.

AS a picturesque background for attractive camera poses, the formal garden offers unusually fine opportunities, provided the figures to be photographed are in artistic harmony with the spirit of their surroundings. Given two pretty girls and a charming old fashioned garden with its sun-dial, ornamental vases and oil jars, its box-bordered flower beds, grassy terraces and prim, geometrically planned pathways, and it seems as if any amateur photographer with some idea of the principles of composition might arrange a series of poses that would reproduce effectively before the camera. But even under such seemingly favorable conditions, the resulting photographs are not always as happy as they might be, when figures are introduced indiscriminately without considering their pictorial qualities in relation to their environment.

A prosaic subject from modern life (and it makes little difference whether it be a man or a woman) posed in the foreground of a picturesque garden, which in itself would make an ideal picture, does not make a harmonious picture, since either the figure or the garden will dominate at the expense of the other. The fundamental trouble is that such figures are wholly lacking in the pictorial qualities which are the most striking features of a formal garden, viewed photographically.

If therefore, the figures to be intro-

duced into your garden pictures lack the pictorial qualities which are the very essence of the formal garden's charm, artistic efforts may often be obtained by providing them with costumes in keeping with the spirit of their surroundings. The rest can be accomplished by correct posing and composition. In arranging poses treat the garden as a picturesque stage setting and the figures as actors in a sort of garden pageant. Make use of



Resting near the shady vine-covered door-stp.



Satisfying their feminine curiosity.



The Sun Dial.

the various properties which are usually provided in a formal garden. A sun-dial, a bench, a flower bed, a flight of steps, or perhaps an ornamental jar will usually suggest effective "business." Only take care not to let the models become theatrical in their poses.

The old-fashioned garden in Southampton, Long Island, where the accompanying photographs were taken seems to call for costumes of the ante-bellum period. Note how effectively the figures are "tied" into the pictures by the quaint style of their dress, which has the pictorial qualities that harmonize with the prim white paths, the sturdy box, and the grassy ter-

aces of the old-time garden. In order that the various poses might seem as natural and spontaneous as possible, the models wandered here and there about the garden, while the photographer followed with his camera, preserving such poses as appealed to his artistic sense most.

The plan worked admirably. The models crossed the grassy terrace and descended the steps leading down into the formal garden. Here two large ornamental oil jars set at either side of some steps on ivy-covered pedestals, attracted their attention and excited their curiosity as the picture reveals. Strolling on leisurely down the long, white path laid out in the shape of a

THE PHOTOGRAPHIC TIMES



CURIOSITY

cross, a sun-dial was the next object of interest and here they stopped again to read its inscription. After making the rounds of the garden the models returned to the house and sat down to rest on the shady, vine-draped door-step, beside a luxuriant little box

bush that grew in a beautiful brown jar. All this the pictures show for the photographer uses good judgment selecting only such poses as seemed to have the charm of sincerity and genuine expression.



A MAY DAY PARTY

Floyd Vail

CURRENT EVENTS *and* EDITORIAL COMMENT

The International Exposition of Photographic Arts and Industries held under the auspices of the Photographic Dealers' Association of America in the Grand Central Palace, New York, which closed April 3rd, was pronounced a great success by all concerned, whether exhibitors or visitors. The attendance for the week was very gratifying to those who promoted this First Exposition. The Second Exposition will be held in Cleveland, Ohio, in 1916. It is estimated that the Metropolitan District of New York City contains nearly one million photographers, both amateur and professional. A goodly portion of this number took advantage of the opportunity to inspect the various exhibits and demonstrations which were held by the manufacturers, agents or representatives. A considerable amount of publicity which otherwise was unobtainable was given to the exhibitors.

☆ ☆ ☆

The National Photographic Competition held in conjunction with the International Exposition of Photographic Arts and Industries, entries for which closed March 15th, the following were awarded plaques or diplomas:

Class 1. *Professional Portraiture.*

Gold Plaque:

"Portrait of Girl," R. C. Nelson, Hastings, Nebr.

Silver Plaque:

"Girl with Fan," Carl Klincheck, Philadelphia, Pa.

Bronze Plaques:

"Lady with Hat," Dudley Hoyt, New York.

"Clythe," Gerhard Sisters, St. Louis, Mo.

"The Fra," R. Morris Williams, Evansville, Ind.

"The Sisters," J. H. Field, Fayetteville, Ark.

Diplomas: "A Composition," M. Goldberg, New York; "Gypsy Girl," E. R. Trabold, Adams, Mass.; "Portrait," E. G. Dunning, New York; "Portrait," Clara E. Sipprell, New York; "Miss Dorothy Wilson," Jos D. Toloff, Evanston, Ill.; "Madonna," Stephen W. Roach, Harrison, N. Y.; "Little Girl," W. Burden Stage, New York; "Baby and Bear," Ernsberger & Son, Auburn, N. Y.

Class 2. *Amateur.*

Gold Plaque:

"Russian Pilgrims," L. S. Kirkland, New York.



In the gray light of dawn the Yaklus warriors turned away

THE PHOTOGRAPHIC TIMES

Silver Plaque:

"Portrait," T. W. Kilmer, New York.

Bronze Plaques:

"Silhouettes," Sparks Freeman.

"A. E. Schaaf," Poughkeepsie, N. Y.

"Sunspots," Rodger B. Whitman, Flushing, L. I., N. Y.

"Silhouette," E. S. Jaffray, Ardsley-on Hudson, N. Y.

"Major Helping Himself," Alexander Murray, Roslindale, Mass.

"Winter's Night," Dr. Albert R. Benedict, Montclair, N. J.

"The Windmill," Edith H. Tracy, Camera Club, N. Y.

"Toward the Setting Sun," W. T. Knox, N. Y. City.

Diplomas: "The Crabbers," C. H. Judson, Lakewood, Ohio; "Our Baby," W. Halley Jacobs, Verona, N. Y.; "Mr. William Paul," Norman Butler, New York; "Along the Swiftwater," J. B. Thompson, East Orange, N. J.; "Passaic Falls," L. E. Wright, Newark, N. J.; "In the Wasatch Mountains," Wm. Gordon Shields, New York; "Michelangelo's Moses," Ford E. Samuels, Alameda, Cal.; "Rainy Night," Jos. A. Popino.

Class 3. *Commercial Prints.*

Gold Plaque:

General Exhibit, Press Photography, G. Cook, Morning Telegraph.

Class 4. *Scientific Photography.*

Gold Plaque:

"Portrait of a Sunbeam" (Spectrum analysis), Oscar G. Mason, New York.

Silver Plaque:

"Dear," Hobart V. Roberts, Utica, N. Y.

Bronze Plaques:

"Timber" (Continental Divide), G. O. Shields, New York City.

Diplomas: "Photo Relievo," Dorothy E. Wallace, St. Louis, Mo.; "Baby Squirrel," J. B. Stracheta, Detroit, Mich.

☆☆☆

The Eastman Kodak Company has on exhibition in the Palace of Liberal Arts at the Panama-Pacific International Exposition, San Francisco, the first exhibit of samples of actual color photography. It is termed the Kodachrome process and consists of two exposures using a panchromatic plate, one exposure being through a green filter and the other through a red. The proper way of developing film negatives and printing and developing paper are also demonstrated. If you journey out to 'Frisco, look up this interesting exhibit. It will well repay you.

☆☆☆

The Bausch & Lomb Optical Company's exhibit at the Panama-Pacific International Exhibition includes optical and scientific apparatus of every character, from the minute lens of a microscope objective to a range finder for use on the largest fortifications and battleships. A complete line of microscopes, photographic lenses, engineering transits, theodolites and precision levels containing many new features, eyeglass lenses, projection apparatus, searchlight mirrors, microtomes and prism binoculars are also exhibited.

☆☆☆

The 1915 Ensign Catalogue of Photographic Accessories is now on the press and will be ready for distribution in a few days. If you have not made application for one of these catalogues, write G. Gennert, 24 East 13th St.,



Long does my sturdy craft breast wave and tide

New York, to-day. Full details are given regarding the various articles manufactured under this well known trade mark.

☆ ☆ ☆

CURTIS' INDIAN DAYS OF THE LONG AGO.

"Indian Days of the Long Ago" is by Edward S. Curtis, whose photographs of Indian life have an international reputation. Mr. Curtis' twenty-five years' acquaintance with Indian tribes, among whom he has lived for months at a time, have given him the intimate knowledge of Indian life, upon which he has based this story of an Indian lad's boyhood. Kukusim is of the Salish, a Rock Mountain tribe, and grows from boyhood to adolescence in the days when the first rumors of the coming of the white man were reaching the western tribes.

The story of his experiences begins with fishing and rabbit-hunting expeditions with his play fellows, goes through the great Council which hears the tales of the wanderers from the East and West, the expedition of the whole tribe to the plains for buffalo, the exciting days of the buffalo hunt, the journey back across the mountains to the home camp in the Montana valley, and ends with the boy's vigil on the mountain of fasting, which marks the end of his childhood.

It is an adventure book for boys and girls, and at the same time a book of absorbing interest for older readers because of the picture of Indian life and ways of thought which it presents. There is in the style of combination of simplicity and dignity in keeping with the subject and of a literary value that is found only in the classics of children's literature.

The illustrations, which number 200, are either reproductions of Mr. Curtis' own photographs or drawings made from the Curtis photographs by F. N. Wilson. The volume is notably well printed and bound.

It is published by World Book Company, Yonkers-on-Hudson, New York. The price is \$1.00; postpaid and boxed, \$1.20.

☆ ☆ ☆

The Second Ansco Catalogue, just issued by the Ansco Company, of Binghamton, N. Y., should be in the hands of every amateur photographer throughout the country, for it describes the amateur camera of professional quality. The catalogue is freely illustrated, and gives full particulars as to cameras, lenses, accessories of all kinds and prices.

☆ ☆ ☆

PHOTOGRAPHERS WANT CONSOLIDATION.

Newark, N. J., was invaded by an army of camera men on April 7th, when the Professional Photographers' Association of New Jersey convened in Turnbull Auditorium. It was determined that the organization should unite with Pennsylvania to form the Middle Atlantic or Blue Ridge Section of the Photographers' Association of America. States represented in the association are Delaware, Maryland, Virginia and West Virginia, and also the District of Columbia. A great exhibition of photographs is expected to be held annually in some city in the section following the amalgamation. It is likely that a permanent art gallery featuring photographs will be established. John F. Sherman, of Newark, and Ulysses G. Channel, of East

Orange, were chosen commissioners to work for this end at the session. Miss Justine Johnson, of New York, was elected as the most perfect type of American girl in a pictorial exhibit at the convention. Officers elected were: President, J. W. Baldwin, Somerville; vice president, Ludwig Schill, Newark, George Wonfor, Camden, Jerome H. Fritz, Trenton, and Edward T. Cotton, Vineland; secretary, William Cone, Newark; treasurer, Henry Vollmer, Bloomfield.

☆☆☆

A photo supply dealer advertises

a machine that will "make enlargements as easily as a fisherman."

☆☆☆

You should send to the Ansco Company, of Binghamton, N. Y., for their folder describing the Ansco Professional Printing Machine, the Ansco Upright Studio Stand with New York Outfit, the Cyko Paper Folder, the Ansco Camera Folder dated 15/16, and the Ansco Film Folder—five neatly printed and mighty interesting folders for both the amateur and professional photographer.

PATHETIC FIGURES.

The Fellow Whose Girl Makes Him Stand Out in the Front Yard While She Takes His Picture.



Cartoon by F. Fox in *The Evening Sun* (N. Y.) of March 19th.



Soon we shall hear their songs of pride and boasting

"THE SPELL OF SOUTHERN SHORES."

By Caroline Atwater Mason. The Page Co., Publishers, Boston. Price, \$2.50.

After you become familiar with "The Spell of Southern Shores," you awaken to the reality of beauty in architecture, and sculpture of the most noble type. You become fully acquainted with what Italy has to give in the way of architectural structures, historical monuments, and in her natural abundance of picturesque landscape.

For a moment let us imagine the present turmoil of foreign commercial pride flooding over the borders of Italy into its seacoast towns! Genoa! Venice! What they have given the world would be destroyed in a few days, by the material accomplishments of modern warfare. The splendor of their famous edifices would be lost to the world, were it not for the fact that the invention and improvement of photog-

raphy keeps their memory alive. It is hard to realize that all the beauty, of which we obtain a personal and intimate variety, in "The Spell of Southern Shores," is now in a balance of preservation or destruction.

Caroline Atwater Mason has a message to give the world from Italy, which that country has inspired in her, and she gives it nobly. We learn from her the life of the true Italian family, the color of Rome, Naples, Genoa, Capri, and other famous places in history. We learn about its most noble edifices to art. There are many books on "Italy," even on some of its cities, but we never tire of one that again freshens our minds to what it gives to the world in color, beauty, and sculpture.

☆ ☆ ☆

Through an oversight on the part of one of our compositors, certain matter which appeared on pages 125 to 128, in the March Number of THE PHOTOGRAPHIC TIMES, was reprinted from *Photography and Focus*, and should have been credited to that interesting publication.

☆ ☆ ☆

The Premoette, Sr., is a new camera that marks a distinct advance in amateur photography. It is equipped with a genuine anastigmat lens F7.7 and with a Kodak Ball Bearing Shutter. It is easy to load and operate and simple in every detail and extremely low in price, the $2\frac{1}{2} \times 4\frac{1}{4}$ size being only \$15.00, and the post card size ($3\frac{1}{4} \times 5\frac{1}{2}$) \$17.50. The new Premo catalogue is free at all dealers or will be mailed direct upon request by the Rochester Optical Division, Eastman Kodak Co., Rochester, N. Y.



"Wistfularia" . By Baron Von Gloeden



I will overtake the maid, and with words of love and wealth will woo her

"ON SUNSET HIGHWAYS."

Thomas D. Murphy. The Page Company, Boston, Publishers. Price, \$3.00.

"On Sunset Highways," a book of travel in the state of California, may be viewed from three angles; that of the motorist, of the interested reader, and of the photographer. The motorist will get from it an ideal impression of lower California, and of the greater advantages of seeing our "Golden State" by motor. He will gain material knowledge of the many ways to save unnecessary expenditures for accessories, will gain the knowledge of how to better the routes between his jaunts, and where to find the best hostelries. The interested reader will have his imagination awakened to the beauties of his own country, to new places of interest, and to an entertaining book. The photographer will have the pictures collected by the author to illustrate his writing, the beautiful

colored prints of paintings, and the continual picture of the text itself.

When you read "On Sunset Highways," you are impressed by the great wealth California has to give in its beauty of landscape, coloring, historical missions—which create their own atmosphere—and in its new and abounding possibilities. To one familiar with Western travel, this book recalls the many beautiful valleys, mountains and towns found; while to those who have not had this advantage, it gives a very charming, realistic, and real picture of sojourns in our "Golden State."

☆ ☆ ☆

"Let the User Judge" is an advertising term used in connection with the products of the Wollensak Optical Co. It fits well with the business policy of this concern that "No Wollensak lens is considered sold until the purchaser is satisfied in every respect."

☆ ☆ ☆



Ruins of Chapel, San Luis Rey, before Restoration.

IN THE LAND OF THE HEAD-HUNTERS.

After four centuries of contact with the American Indian the white man has but little conception of the inner spirit and emotions of his red brother. Prominent among the few intimate interpreters of the Indian, is Edward S. Curtis, known internationally for his wonderful photographs of Indian life.

Mr. Curtis' latest book, "In the Land of the Head-Hunters," is based on a legend of the Indian tribes whose original habitat was the Vancouver region, where the action takes place. The tale begins with the vigil of Montana, the young chief undertaken to win supernatural power; then follow his wooing and winning of Naida, the plots of the

wicked sorcerer, and the war chief Yaklus, the raid on Montana's village, the capture of Naida, her rescue by Montana, and the final overthrow of Yaklus. The story is told in the style of the tribal bards and has the swiftness of movement, the elemental directness, and the stark simplicity of the true epic.

The thirty half-tone illustrations are from Mr. Curtis' motion picture film based on the same story, which is now being shown throughout the country. They are beautiful examples of the art of both photographer and engraver.

The book is published by World Book Company, Yonkers-on-Hudson, New York. The price boxed and post-paid is \$1.20.

☆ ☆ ☆

The M. A. A. Camera Club of Montreal held its Ninth Annual Exhibition from March 29th to April 3d. in the Club Rooms, 250 Peel Street.

Exhibits were received from many parts of Canada and the United States, and also from Great Britain.

The high standard of work shown ranked the exhibition as being the best and most interesting in the Club's history.

Messrs. William Brymner, (President of the Royal Canadian Academy), Walter Mackenzie and Sidney Carter again acted as judges.

The pictures were divided into four classes: Figure Studies, Landscapes, Waterscapes and Genre, a silver and a bronze plaque being awarded in each class.

The prize and honorable mention list was as follows:

CLASS A. FIGURE STUDIES.

1. George Alexander, "The Blue Crane."

2. B. J. Morris, "Nymphs of Niagara."

Honorable Mention. C. G. Ashley, "Little Chinks."

CLASS B. LANDSCAPES.

1. B. J. Morris, "A Japanese Moon."

2. C. W. Christiansen, "The Branch."

Honorable Mention. B. B. Pinkerton, "Sir Robert's Walk;" G. H. Kahn, "Morning;" B. F. Langland, "Cloud Faces."

CLASS C. WATERSCAPES.

1. C. Macnamara, "A Spring Flood."

2. C. Adkin, "Harbour Scene."

CLASS D. GENRE.

1. C. W. Christiansen, "June Symbol."

2. W. A. Guyton, "Midsummer Night's Dream."

3. W. A. Guyton, "The Fountain."

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Catherine C. Bleir, Notary Public, New York County.

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ROCHESTER, N. Y., *The Kodak City.*



The Kodak Film Tank.

Everybody is more or less human and breathes there a man with soul so dead who isn't thinking vacation, and planning vacation, and talking vacation, *right now*. Even though you don't get your furlough for a couple of months or so, you are already thumbing time-tables and looking after your bank account with unusual solicitude. And just to show that you really mean business, the chances are that you are getting together your vacation kit.

For the real Kodaker, the man who knows that the Kodak is just as essential to the trip as the suit-case, the vacation kit is built around the Kodak and the first article selected for this supplementary equipment is quite apt to be the Kodak Film Tank.

Perhaps the Kodaker learned the Kodak Film Tank lesson from bitter experience. Perhaps, several years ago, he hadn't provided himself with a tank and consequently had to wait until he returned home in order to see his negatives. And then, perhaps, after he had worried the life out of the finisher, the strips of film revealed the fact that several of his most coveted pictures were either under or over exposed. If he had only known in time, he could have taken those pictures over again, but it was too late now.

If this *did* happen, you may be sure

that the first article that went in his vacation luggage next year was the Kodak Film Tank for by this means he could check himself as he went along, could correctly time future exposures from the hints furnished by the negatives, themselves.

The Kodak Film Tank, you know, enables you to develop your films when and where you want to. Whether it be camp or cottage, hotel or ocean liner makes no difference to the film tank. Environment plays no part in its successful working. So when we say that you can develop your films anywhere, we mean just that. Neither does the fact that you may elect to do your developing in broad daylight disconcert the film tank in the slightest. In fact, it rather takes it for granted that you *will* develop in daylight. That's the convenient, the pleasant way, and it's the Kodak Film Tank way. The Kodak Film Tank is absolutely light proof and, with the film safely inside, it is a matter of complete indifference both to you and the tank where it be placed.

It's the convenience of the Kodak Film Tank that may especially recommend it for the vacation kit but the thing that most impresses all Kodakers who have used it is not the convenience at all, but the *results*. It is an indis-

(1)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

putable fact that tank development produces the best negative possible in each and every case and it is another fact that only by tank development can such results be consistently secured.

When you are packing your vacation kit and put in the Kodak Film Tank, you automatically take out the element of possible disappointment.

THE PRICE.

Brownie Kodak Film Tank, for use with No. 1, No. 2 and No. 2 Folding Pocket Brownie cartridges, complete,	\$2.50
Vest Pocket Kodak Film Tank, for Vest Pocket cartridges, complete,	2.50
2½-inch Kodak Film Tank, for use with all Kodak or Brownie cartridges having a film width of 2½ inches or less, complete,	3.50
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7-inch Kodak Film Tank, for use with No. 5 Cartridge Kodak or shorter film cartridges, complete,	7.50

KODAK "MASKIT" PRINTING FRAME



You know how it is. You put the negative, mask, and paper very carefully together in the printing frame, close the back just as carefully, expose, develop

and discover the thin white line at the edge of the print showing that the mask had slipped out of position. It is *then* that your usual good disposition becomes a mere speck on the horizon and that certain pet expressions signifying contempt, disgust, and reproach rise, unbidden, to your lips.

It is *you*, and "you" means amateur photographers in general, who will welcome the advent of the Kodak "Maskit" Printing Frame because by the simplest kind of a device the "Maskit" locks the mask and negative tightly together *so that they can not slip*. There is no necessity for gumming the negative or mask to the printing glass no matter how many duplicate prints you may care to make. The thumb controlled device at the side of the "Maskit" holds the negative and mask in proper registry for one print or a hundred.

And the "Maskit" does more than this. It not only prevents slipping but, in addition, insures uniform white margins on all four sides of the print, provided standard size paper be used. In other words under such conditions, no trimming is necessary—when the print is dry it is ready for mounting at once. This feature, alone, is enough to make the "Maskit" thoroughly worth while.

Each "Maskit" frame is equipped with a glass the full size of the frame, three cut-out masks, and a metal extension strip for use with very small negatives. If masks with openings of different size from those furnished with the "Maskit" are desired, they may be made by the amateur, himself, with the greatest ease. The best method for the proper cutting of such masks is fully explained in the "Maskit" direction sheet.

THE PRICE.

KODAK "MASKIT" PRINTING FRAME.

SIZE			
3¼ x 4¼	opens two thirds,	- -	\$.40
3¼ x 5½	" " "	- -	.45
5 x 7	" " "	- -	.50

(2)

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ROCHESTER, N. Y., *The Kodak City.*



THE VEST POCKET AUTOGRAPHIC KODAK.

The Vest Pocket Kodak has been called, and rightly—the essence of efficiency. The Vest Pocket Autographic Kodak, then, is the quintessence of efficiency combining as it does the compactness, the convenience, the dependability of the Vest Pocket Kodak with the means for dating and titling your negatives when you make them. And there is no advance in the price.

It seems almost impossible that so much could be packed in so small a space but Kodak workmen only smile at that word "impossible". They have achieved the impossible so often that the word has lost much of its significance. The impossible thing, to them, means the thing worth doing—and doing well—that is all.

So it is that the Vest Pocket Autographic Kodak, the quintessence of efficiency, has sprung into being. It slips in the pocket just as easily as the old Vest Pocket Kodak, it is the old Vest Pocket Kodak except that the means for writing it on the film at the time has been added.

The advantages of the autographic attachment can hardly be over-estimated. Memory at best is fickle and she often fails us when we need her most.

But memory backed with the autographic record is a very different personage. You can't forget, memory is effectively linked up with each picture for good and all. There is sure to be *something* that you would like to remember concerning each picture and it is this very something that the autographic attachment records. Often this record will contain valuable information, precious data—always it will add to the worth of the picture in the years to come.

Anastigmat equipment, always worth while, is of particular service when fitted on the Vest Pocket Kodak for the reason that the resulting negatives, clean cut and sharp, clear to the edges, yield excellent enlargements with no loss of detail. The Vest Pocket Kodak does such thoroughly good work and we are so proud of the results secured that we frequently wish to signalize one of these little picture masterpieces in an enlargement—particularly as the Vest Pocket Kodak Enlarging Camera makes this such a simple matter.

Two of the three styles of the Vest Pocket Autographic Kodak are furnished with anastigmat equipment, the Vest Pocket Autographic Kodak *Special*, fitted with Zeiss Kodak Anastigmat lens and the Vest Pocket Autographic Kodak with Kodak Anastigmat lens *f.* 7.7.

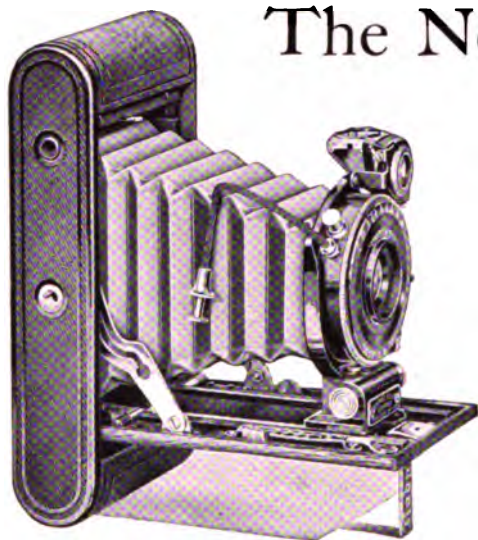
A note book that would take pictures would be a very wonderful thing. You would be eager to see such a marvel. A Kodak no larger than a note book, permitting you to make brief notes beneath each negative, is even more wonderful. And you have only to go to your dealer's to see one.

The Price.

Vest Pocket Autographic Kodak, meniscus achromatic lens and Kodak Ball Bearing shutter	\$6.00
Vest Pocket Autographic Kodak, with Kodak Anastigmat lens <i>f.</i> 7.7 and Kodak Ball Bearing shutter	10.00
Vest Pocket Autographic Kodak <i>Special</i> , Zeiss Kodak anastigmat lens, and Kodak Ball Bearing shutter	22.50

(3)

If it isn't an Eastman, it isn't a Kodak.



The No. 1 Autographic KODAK, *Special*

Small enough to go in
your pocket—*conveniently*.

Good enough to do
any work that any hand
camera will do—*satisfac-*
torily.

SPEED. The Shutter has a speed of $1/300$ of a second and slower controllable speeds to one second—also has the time and bulb actions, *and is large enough to give the full benefit of the anastigmat lenses with which the camera is listed.*

QUALITY. All the way through the No. 1 Autographic Kodak *Special* has that mechanical precision, that nicety of adjustment and finish that gives the distinction of "class".

SIZE. The pictures are $2\frac{1}{4} \times 3\frac{1}{4}$ inches; the camera measures but $1\frac{3}{8} \times 3\frac{3}{8} \times 6\frac{3}{8}$ inches, in spite of the fact that its equipment provides for anastigmat lenses of the highest speed.

AUTOGRAPHIC. It is "autographic", of course. All the folding Kodaks now are. You can date and title the negative easily and permanently at the time you make the exposure.

SIMPLICITY. Effective as it is, the Kodak Idea, Simplicity, has not for one moment been lost sight of, there are no complications. The No. 1 Autographic Kodak, *Special*, has the refinements that appeal to the expert—to the beginner it offers no confusing technicalities.

THE PRICE.

No. 1 Autographic Kodak <i>Special</i> , with Zeiss-Kodak Anastigmat lens, <i>f</i> .6.3,	\$45.00
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Do., with Zeiss-Tessar, Series 1c lens, <i>f</i> .4.5, - - - - -	56.00

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THE PHOTOGRAPHIC TIMES PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed on June 30th, 1915, so as to be announced in the August Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

Second Prize, \$5.00

Third Prize, \$3.00

And three honorable mention awards of a year's subscription to
THE PHOTOGRAPHIC TIMES.

In addition to which those prints which deserve it, will be Highly Commended.

CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. This competition will be for "Novices," and the subject is open.

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

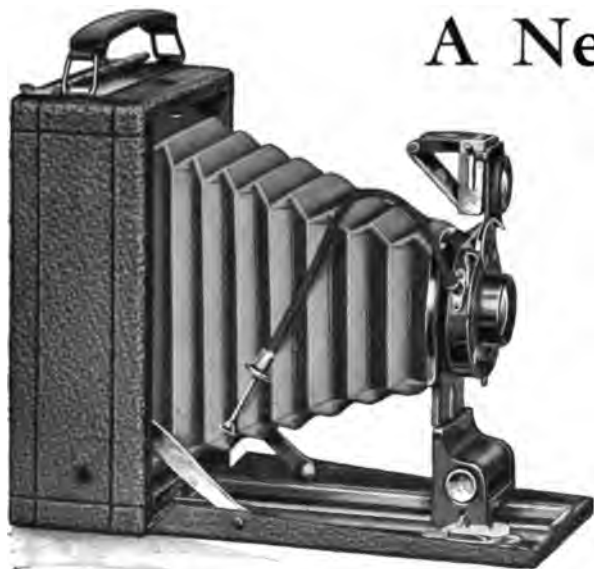
NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received by us not later than June 30th.



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Every experienced amateur knows the advantage of the anastigmat lens, but the relatively high prices which have hitherto prevailed, have prevented him from owning one, in the majority of cases. The new Kodak Anastigmat lens, *f*.7.7, fitted to this camera, is equal in flatness of field, depth and definition, to the highest priced anastigmat made, and has a greater speed than any R. R. lens. And it is furnished at such a price that even a beginner can now well afford to start with an anastigmat equipment.

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Index

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The JUNE 1915

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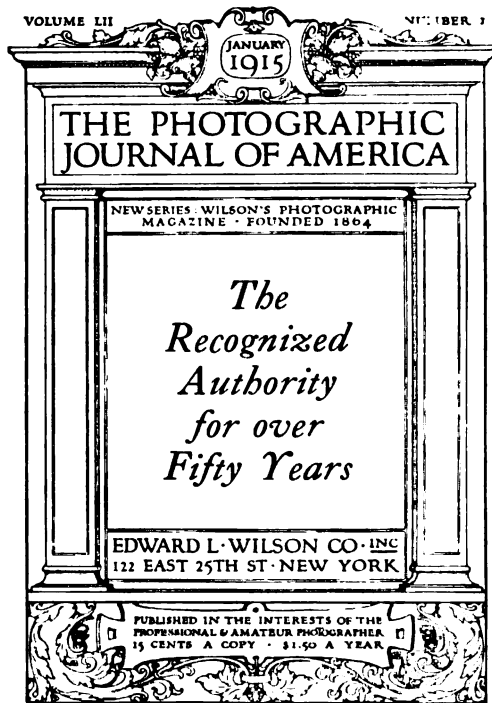
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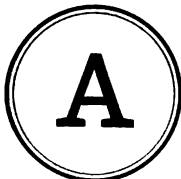
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No. 6

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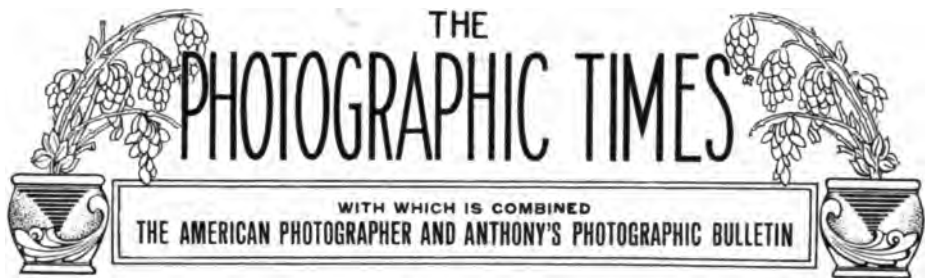
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CLEAR AND COOL

Paul Andros Brooks

First Prize in the Amateur Contest of the Country Life Permanent Exposition



VOLUME XLVII

JUNE, 1915

NUMBER 6

PICTURE MAKING FROM COMMONPLACE MATERIAL

With Seven Illustrations.

BY WM. S. RICE.

SOMEONE has aptly said that "Art is nature seen through a temperament." The same idea holds good in photography where often a commonplace subject yields the most interesting picture when photographed at the psychological moment, when the moment has arrived requires the genius of the photographer to decide. In order to come to a decision in the matter we must study the subject whether a landscape or figure, under varying conditions of light, as well as from various points of view.

Supposing our subject is a landscape we are impressed by its beauty on an early evening stroll by the river bank. The sunset sky effects are just right for a picture but it is too late in the day to get it with anything like success.

We console ourselves with the thought that we can just as conveniently take the picture the following morning. So, with all the necessary photographic paraphernalia, we saunter forth to our chosen spot to make the exposure. But, lo! the landscape

does not look the same, and of course not, because the lighting of the subject makes all the difference in the world. Last evening the sky was the main attraction and the clouds made the sky space interesting by attractive cloud patterns while now it is simply one plain light area. The buildings, ship and banks were simplified and stood out as dark silhouettes against the clouds. In other words they served merely as dark forms to accent and bring in relief the splendid sky that roused your enthusiasm on first seeing the possibilities of the subject.

Now in the even morning light there is nothing dominant in your subject and the word monotony is written everywhere all over it.

You are so disappointed in the subject that you cannot understand what is the matter and you go away without making an exposure.

Perhaps it will sometime dawn upon you why this subject was so appealing the first time you saw it, and why it appears so commonplace to-day. If



IN THE SANTA CRUZ MOUNTAINS

so, you will have your camera in readiness for good cloud effects and when the right one comes, hasten forth and obtain a masterpiece.

Now comes the *modus operandi*. Any kind and make of camera will do, although the larger the plate the more interesting the subject. You must stop the diaphragm down to about 32 and wait until the sun has just hidden his face under the edge of a protecting cloud, and then "press your button." One-twenty-fifth of a second is the average time required to do the trick.

A photograph that attempts to show every object in an extended view of the country is not, in an artistic sense, a picture. You know that such a picture shows too many objects of interest for your eyes to take in at once. Either the picture must be kept moving to bring different parts of the scene before you, or you must change your

point of view in order to see more of the representation. It is like a walk or drive through the country, you can see material for a great many pictures in going even a very short distance.

A picture or landscape design, is therefore a careful selection of shapes and values, or colors placed within a definite space. The most artistic photographs from nature are not those which show the widest extent of country or the greatest number of objects; but they are those which show that the artist has carefully chosen a spot wherein certain shapes, colors and values seem to be arranged according to the principles of composition or picture making. An artist sketching out of doors must leave out every shape that does not add to the beauty of his picture or that draws attention away from his central object of interest.

By cutting two L-shaped pieces of



paper and shifting them about over a photograph we are often surprised to find many little pictures within the one, each being interesting in itself apart from the main picture. Very often this is the case and with this thought in mind we will endeavor to find our own particular picture and compose it by observing the following rules:

1. The proportions of sky and land or water should not be equal.
2. The horizon line should be either above or below the exact center of the picture space.
3. Principal effects of interest should not be grouped in exact center of picture but a trifle to the right or left.

The water front in the city of Stockton, California, as everyone knows, is a commonplace, every-day commercial subject for a picture and yet in the early evening one will find many interested people attracted hither to watch the glorious sunset effects which are reflected in the rippling tide. The plain commercial looking mills and factories

now loom up as mere silhouettes and all detail loses itself in the general scheme.

Many beautiful pictures have been made from this spot in the past. Now, however, some modern buildings have been erected in the foreground which cut off a view of the distance and spoil the subject for all future attempts at picture making.

Compare the two pictures entitled "Sunset on the Slough" and "Morning on the Slough" and observe how commonplace the subject is in broad daylight, and how much the sky in the evening adds to the making of the picture.

I have spoken before about the introduction of a figure in the composition to add interest and relieve monotony. "The Ruined Sanctuary" and a "Street in Old Capistrano" will explain just what I mean and illustrate the idea without any words.

Shadows often are the making of a picture out of commonplace material. Notice in the frozen brook in the picture



1—Afternoon Shadows
2—Street in Old Capistrano
3—The Stockton Channel at Sunset

entitled "Afternoon Shadows" how the trees make interesting arabesques on the level surface of the frozen water.

The loneliness of the ocean beach may be well expressed by a solitary figure strolling along the water's edge. In this case the figure should not be at close range but merely an accent in the wide view. I remember once seeing an



Ruined Sanctuary

interesting picture of the desert, which to my mind, expressed the spirit of the arid lands more truthfully than any that I had ever seen. The picture was of good size but the figures were mere dark specks and only accessories in the scene, thus giving the beholder an impression of solitude and vastness.

By the intelligent use of the finder much that is commonplace or non-essential to the making of your picture may be shoved aside and the result will be a great surprise.

The illustrations shown herewith—photographs of shipping in the Stockton Channel—illustrate more clearly than words can tell, the points that I have just been speaking about.

Clouds are an essential feature in a landscape which shows too much sky space. In cases where this is a blank, white spot the picture is apt to become very tiresome.

Smoke and steam are also two very important factors in relieving a com-



Morning on the Slough



*Sunset on the Slough
The sun was sinking behind a cluster of
purple banded clouds*

monplace subject of monotony and giving to the too evident subject what the artist likes to term as atmosphere or mystery.

Study any pictures of water front scenes taken in large cities and see what importance steam and smoke play in suggesting life and action to the scene which ordinarily would be quite commonplace.

Views taken from tall buildings in cities showing the "downtown skyscraper district" wreathed in swirling columns of steam and smoke are commonplace enough subjects in which the ever-shifting smoke wreaths make interesting patterns of light masses that break the tall, severe, vertical lines and introduce an element of softness, delicacy and a sense of mystery.

The introduction of a figure or two in just the right spot often results in the making of a picture out of what appeared to be nothing at all promising.

The fault with most photographs when thoughtfully considered from the pictorial side, is, as I have said before, that they attempt to show too many objects of equal interest. The result is, that the eye flits from one to the other and does not rest quietly upon any one of them.

As an example of this I have but to refer you to the photo entitled "In the Santa Cruz Mountains."

Three equally interesting little pictures have been segregated from the landscape as a whole and neither one requires the addition of the other to make it more interesting.

CHILD PHOTOGRAPHY WITH THE RECTILINEAR

With Six Illustrations.

BY B. SPRINGSTED.

THAT child photography is interesting no one competent to render an opinion will dispute. Neither will any one who has had experience contradict the difficulties which beset the getting of good likenesses of the little ones at all times. The difficulties encountered in this field are due largely to the practical impossibility of getting children to remain in any one position for a sufficient length of time to enable the operator to make the exposure. I am referring now to children ranging in age from infancy to, say, five years. The younger the child, generally the more difficult to photograph with any degree of certainty as to results. What camera worker cannot recall numerous instances when he has attempted, successfully he thought, to get a picture of a child at just the right moment to give the most pleasing effect, only to find when the negative came out of the developer that a slight movement of the hand, the wandering of an eye, or some similar detail that went unnoticed at the time, had rendered the effort fruitless?

Probably the only way to successfully combat this difficulty is to seek to divert the child's attention for the moment from the camera, if possible; in other words, to accustom the child to your presence in order that it may follow its natural bent until the opportune moment arrives for making the

exposure. This is not always an easy matter of accomplishment, especially if the child be of the inquisitive age, unless patience and perseverance are exercised; but it can and must be done if one would secure the much desired expression of naturalness necessary to make a pleasing picture. Bear in mind that one success is worth a hundred failures, in this as in everything else, and that anything really worth having must be earned; and, too, the more effort expended in reaching the desired goal, the sweeter the fruits of reward. We should not chafe under discouragement if every negative made does not result in a perfect picture. The one really good picture secured should be ample compensation for the failures encountered in its pathway, and it will.

It has often occurred to me that it is, perhaps, after all, the difficulties surrounding the taking of children's pictures that makes us all the more anxious and determined to successfully photograph them under conditions best calculated to display their whims and moods. At least I believe this may be tabulated as one of the dominant reasons.

I have just finished reading an article in a photographic magazine, detailing the experiences of a father in making pictures of his children. He must have encountered his full share of difficulties, for he sums up his argument with the statement that an anas-



*Gathering Wild Flowers
Examining the Oar Lock*



*Chums
At the Seashore*



*Playmates
His Boat*



tigmat lens is "absolutely indispensable" in work of this kind. While, of course, the author is not in possession of the facts surrounding the particular case cited, nor of the evidence which might be introduced tending to substantiate the argument, it is the purpose of this article to demonstrate that successful work can be accomplished in this very interesting field of photography with the rectilinear lens.

At the outset I desire to say that I agree an anastigmat is very helpful in this field, but I do not believe it is "absolutely indispensable." The same thing may be said regarding photographic work in any field—the better the equipment, providing one is competent in its use, of course, the greater the opportunity offered for successful work under all conditions. But there are many to whom the first cost of the higher grade equipment is prohibitive, and again others who, by reason of the infrequency of its use, do not feel justified in making the outlay necessary to possess such equipment; and I feel there is no real reason why any one should not get perfectly good results in children's pictures with the ordinary rectilinear equipment, if the effort but be supplemented with a little patience, perseverance and a measure of good judgment.

The anastigmat lens is helpful in enabling one to get pictures of the little tots under less favorable conditions as to light and shade than can be accomplished otherwise. But it is not by any means always necessary or desirable to get such pictures under abnormal conditions; and the fact that such conditions do sometimes obtain should not be held up as the rule in dis-

couragement to those who have only the ordinary lens equipment from realizing much pleasure and enjoyment out of child photography.

I feel that any one who fails to take advantage of the opportunity of getting pictures of the little ones about the house, on the lawn, at the seashore or on the vacation trip, or at their many little picnic parties and gatherings, is missing much. Indeed, if the hand-camera could be used for no other purpose than picture work among the children, it would be well worth while.

Child photography differs from any other branch of similar endeavor in that there may be said to be an ever increasing value attached to the little ones' pictures. In almost any other field of photographic work, owing to the recurring conditions as the seasons come and go, there is generally always opportunity to duplicate a picture if the necessity requires. But not so with children's pictures; they can never be truly duplicated. Another picture, it is true, may be secured, but it is not a duplicate and often lacks the peculiar feature that lent charm and value to the former setting. And no doubt therein the greatest charm attaches to children's pictures in after years. How often have we heard the expression, "O, for some pictures of little Jean when she was three or four years of age"—meaning an everyday picture of the little one, taken in everyday fashion, with all the "frills" and "trimmings" and unnaturalness of the studio portrait eliminated. Such expressions serve to emphasize the worth of the pictures at a time when, of course, it is impossible to get them.

In making children's pictures with

the ordinary rectilinear lens, such as is found in the equipment used by the majority of amateur camera workers, it is well for one to select as favorable conditions as possible—this advice, of course, would apply with equal force regardless of the kind of a lens used, but it is particularly applicable here, so I mention it—*i. e.*, the negatives should be made, as far as practicable, between the hours of ten a. m. and three p. m., when the light is strongest. Yet I have secured some good negatives under much less favorable light conditions, that is, earlier or later than the hours mentioned, or in the shade, or on a cloudy day when the light was comparatively weak.

In using the rectilinear lens at full aperture with an automatic shutter, an exposure of one one-hundredth second will generally be found ample to give a good negative, providing one is favored with reasonably good light conditions, and this is fast enough to arrest any ordinary movement likely to occur at time of making the exposure. Often times it will be found that one-fiftieth second exposure will be sufficient to give a negative free from movement, but this is the slowest speed that should be attempted. The above, of course, refers to outdoor pictures. Most pictures of children, and I believe the best ones, too, are secured out of doors during their playtime. It is my experience that one-fiftieth second exposure with this kind of equipment is generally the more practical one, owing to the fact that it comes nearer meeting the average light conditions. However, the first speed mentioned may be used, and with good results, providing one is favored with light conditions

justifying same, such as usually prevail in the summer time at midday, or at the seashore, or elsewhere where there is considerable reflected light.

In the occasional abnormal case, when one is confronted with the problem of making a picture under unfavorable light conditions because of circumstances, I have found that the strengthening of the negative by intensification will often help one over the rough places. And you will be happily surprised, if you have not attempted it, when you learn what really good results can be obtained in this way from a comparatively thin negative. A good intensifier will help wonderfully in adding strength and detail. It has frequently come to my notice that a properly intensified negative will often render as good a finished print as a perfectly timed one. Intensification, of course, is only an emergency remedy for a condition that is beyond any other treatment, and it is referred to here only in the sense of being helpful in those cases where failure would otherwise attend one's efforts.

The negatives of the pictures submitted with this article were all made with the ordinary rapid rectilinear lens equipment, and under the average conditions—some at the seashore under the most favorable light conditions as to intensity; others in the woods, where practically the opposite light conditions prevail; another on a hazy day in the winter season, etcetera, representing, therefore, the variety of light conditions met up with by the amateur.

In conclusion, as a last word—let this be emphasized—get better acquainted with this particular branch of

the art. It will be found that it merits all the attention one devotes to it; and do not be discouraged either because you may not have an anastigmat lens. You will find that mighty good results can be secured from the use of your rectilinear, with a little practice and

a better understanding of the conditions under which it works best. The artistic and pleasing work will reward you beyond measure, and in after years the pictures you have secured of the little ones will magnify in value and importance.



THE VIEW

(Wilkes-Barre Camera Club Exhibition)

Ben. J. Boyd

THE ADVENTURES OF THE "MOVIE" CAMERA MAN

With Two Illustrations.

BY CHARLES I. REID.

WE have often been told about the exciting work of the press photographers who must secure their pictures under all sorts of conditions and circumstances, but their work seems tame compared to that of the motion photographers who secure the "thrillers" for the motion picture audiences. The general public witnessing an exciting event throughout the motion picture theatres seldom thinks about the difficulty of securing the pictures, which in many cases would seem unsurmountable. The difficulties of securing still pictures of current events are often multiplied in the case of motion pictures, as such pictures must be

taken from a tripod, and by turning a handle, which always attracts attention and makes it difficult to take pictures of characters who are adverse to having their pictures taken, and, also makes it difficult for the operator to take pictures in places where cameras are forbidden. Motion picture camera men employed by producing companies usually draw good salaries, and are consequently expected to show plenty of nerve and resourcefulness. Many of the assignments are both exciting and dangerous, as in the case of the Pathe Weekly camera man who took pictures of the great miner strike at Trinidad, Colorado, when the bullets



FILMING A PLAY IN THE LUBIN (Philadelphia) STUDIO



THE CAMERA ARTILLERY OF A MOTION PICTURE STUDIO

were flying all around him. His pictures were so fine that they were confiscated by the attorney-general of Colorado, and were used as evidence in the prosecution against the striking miners.

Fritz Wagner, another Pathe Weekly camera man, while taking pictures in the late Mexican war, operated with the federal forces. He was with Huerta at the defeat of Lagruna, was captured by the rebels in the disastrous route that followed and spent three weeks in jail as a prisoner of war. This photographer saw enough gore and fighting to satisfy an ordinary man for the rest of his life.

The Eclectic Film Company received not long ago from their camera man in Belgium about 1,500 feet of film which he took just before the sacking and burning of Louvain. Some of his pictures show the Belgian troops in their hastily made entrenchments. The retreat, the swarm of refugees and the start of the conflagration of the town are all shown. These are the first and

only pictures from the seat of war that were actually taken on the firing line, and will shortly be placed before American audiences. The difficulties in the way of securing such pictures are enormous, as orders had been issued to arrest all persons found with cameras within twenty miles of the armies. He secured these pictures by concealing a fourteen-pound aeroscope camera beneath his coat. This camera is operated by compressed air and has a gyroscope which makes it possible to take pictures while holding the camera in the hand. Had this man been caught there would be no telling what would have happened to him.

The means employed by resourceful motion picture photographers to obtain good pictures are sometimes very amusing. At the opening of a new hospital in London, England, Col. Seely was elected the honor of opening the new hospital, and was presented with a golden key with which to unlock the doors for the first time. After some preliminary ceremonies the time came

to unlock the doors and the colonel inserted the key, only to find that it evidently did not fit, and he spent five minutes in a vain effort to unlock the new doors, during which time a motion picture photographer worked hard filming the colonel and his changing expressions of surprise, annoyance and wrath. At last he gave up the task and simply called for somebody to come and unlock the doors from the inside. The officials were very cross about the fiasco, and it was not until some time later that they learned that Col. Seely was adverse to having his pictures taken, and the photographer being determined to secure a picture, he had plugged up the keyhole.

In order to secure pictures that will make a popular appeal the motion picture photographer penetrated into many places never before explored and those avoided by other mortals. Recently Frederick Burlingham, an American, climbed down into the burning crater of the active volcano Vesu-

vius, and at a depth of 1,200 feet stayed for twenty minutes to take pictures of the interior of the crater. Just as Mr. Burlingham and his assistant were half way down they were confronted by the most deadly danger. The volcano suddenly increased in activity and the smoke and fumes entirely enveloped them. They clung to a rope for twenty minutes, uncertain whether to proceed or retreat. They finally went on with the whole motion picture outfit, and at a depth of 1,200 feet stayed for twenty minutes to take pictures of the interior of the crater by the light of the pit of fire. The intensity of the fire is shown by the fact that the films have turned out remarkably well and will be exhibited in the United States. The difficulty of securing pictures like these only serves to spur the camera men to greater efforts, and such films almost invariably bring a small fortune to the successful photographer, as the competition among the producing companies to have the publishing rights to such films is very great.



WHEN THE WORLD WAS YOUNG

E. D. Leppert

A NOVEL HAND-CAMERA

With Four Illustrations.

BY W. N. JENNINGS.

AS a Business Photographer, specializing in high-class illustrations for advertising purposes, I have long felt the need of a hand-camera that would not be heavy and bulky; simple in operation, and using plates of a size not less than 8" x 10".

As I should be called upon to make super-speed snapshots with such a camera, the employment of an 8" x 10" roller-blind shutter was quite out of the question, as the resulting image would be much distorted.

I could not use the reflecting mirror on so large a hand-camera, as this would bring the view-point entirely too low.

The advent of the Sigma plate and the Multi-speed shutter furnished a solution of the problem.

I went to work to design and construct a camera covering my requirements, and having made over four thousand good negatives with the ap-

paratus, under almost every condition of light and shade, it gives me pleasure to pass the idea along.

A glance at the accompanying illustrations will make it clear that the new camera is nothing more or less than a cone-shaped box, having at one end a lens and shutter, and a closed-in plate holder at the other; with a look-through finder at the upper end of the box.

After a great many experiments with various lenses, I selected an Anastigmat, 10¼ inch focus, F.6.8 as an ideal lens for the purpose.

The cone-shaped box is constructed of "Compo board." A long strip of tough manilla paper is well glued and wrapped several times around the box, which is then covered with the usual black pebbled leather.

The plate-holder slides in a spring lined groove and is shielded from daylight. When the dark-slide is with-



To make upright pictures



To make horizontal pictures



W. H. Jennings' Aeroplane Camera watching flight of aeroplane. Taking pictures over head in crowd



Looking down over crowds

drawn and slipped back of the plate-holder a spring door covers the dark-slide slot and make it quite light-tight.

The camera with the slide withdrawn may be carried about in bright sunlight without the slightest danger of fogging the plate.

To find a practical working focus, I fixed the lens on a small front board, and placed an 8" x 10" white card in the plate-holder, upon which I focused a sharp image of an object exactly twenty-five feet distant, carefully marking the position of the front-board. The cone was planed down to this mark, and the regular lens board firmly attached and planed flush with the cone.

By reducing the lens aperture to F.16 the depth of focus is increased from fifteen feet to infinity. By reversing the lens combination, the wide open

lens gives a sharp image of an object fifteen feet distant, and stopped down to F.16 gives a working field from ten to twenty-five feet.

The use of the Sigma plate makes it possible to produce super-speed snapshots with the lens stopped down to F.16.

In bright sunlight under these conditions I have obtained fully timed negatives with a shutter speed of 1/2000 seconds.

To operate the camera, I first set the shutter speed to the requirements of the work in hand, withdraw the dark slide, place it back of the holder under the pressure springs; raise the hinged look-through finder to eye-height. At the right moment a touch of the shutter-release in front of the shutter insures a perfect picture. The new camera is an ideal one for balloon and aeroplane work, where simplicity of

operation and lack of mental strain are essential to success.

I have found the camera useful in crowds by turning the box upside down, holding it at arms' length and gaining an unobstructed view-point.

It was a simple matter not long ago, while rumbling through the streets of London, to obtain sharp, clear snapshots with this camera from the top of a

motor bus, a very difficult feat with a large Graflex.

The weight of the camera with two 8 x 10 plates is much less than a 5 x 7 Graflex with two plates.

As super-speed cut film will soon be on the market, and possibly an 8" x 10" film pack I am sure the new instrument will prove a time, weight and trouble-saver.

EMPHASIS IN PORTRAITURE

EMPHASIS in oratory means dwelling longer and laying more stress on certain words in a sentence, or certain sentences in a speech, to impress their meaning upon the hearer with extra effect.

So, in literature, dwelling on the ideas considered most important, reiterating them in the most positive manner, gives force and emphasis to them, impresses them on the reader's mind with permanent effect.

That is all very well for speaking or writing, you may say, but how can you give emphasis to a portrait in a photograph?

Let us reason together and see. There are very few people so tame and spiritless that they have no pronounced characteristics, no special features of interest more noticeable than the others.

Almost everybody has some special quality or look recognized as their best point, and when called to make their likeness, if you have the acumen to discover and the skill to so arrange the position, the lighting, and the whole effect as to bring out and make spe-

cially noticeable this good quality, or feature, you have placed emphasis on it, made it emphatic, so that it will be noticed, and remembered, even by those who perhaps have never noticed it before, and now will never forget it.

Let us illustrate. Take a man whose face-front view would give no special indication of character—might appear quite tame and commonplace, while his prominent clear-cut profile would give marked indications of strength and power, as of one born to command, and might be the face of a king. So of a body with large dark eyes full of intelligent expression—soulful eyes, like the lady in Byron's celebrated lines:

"She walks in beauty, like the night,
Of cloudless climes and starry skies,
And all that's best of dark and bright,
Meet in her aspect, and her eyes."

When you photograph such a one, make the most of the eyes, as if the picture was taken solely to show the eyes, so that the observer will exclaim, "What beautiful eyes!" and there you have the emphasis.

Of if a lady has not very beautiful features, but has well-rounded arms and taper, graceful hands, pose her for

the beauty of the arms and hands ; make the most of them, so that every one will say "What beautiful arms!" and forget to criticise the face.

So of a lady with large, slightly irregular and rugged features, but with a good form ; take her full figure ; emphasize all the beauty and grace of that, while the features in miniature appear more delicate and refined.

Or if a lady has a placid face but a clear-cut profile, pose her as if that was all the picture, like a Greek cameo or bas relief.

If a young lady is very vivacious and spirited, take her smiling and animated if possible, to make prominent that characteristic ; or if a lady is very quiet and sedate, take her as if reading, or looking down at a flower or other object, in a condition of perfect repose, so that her present attitude will accord with her general character, and thus you make the emphasis.

If a man has a strong and vigorous personality, like a lion among men, emphasize that ; or if he is slight in figure, lithe and graceful, instead of bold and strong, place the emphasis in expressing that.

If he has a full beard, heavy and tawny, like a lion's mane, make the most of that, as if the picture was taken mainly to show the beard.

If he is young and dudish, with a

short mustache trimmed as many wear them, make that the prominent feature, as if the mustache was the picture and the man an accessory.

So on through the list of possible emphases.

In short, with every sitter seek to discover and recognize some special beauty of face or figure, or some special quality of mind or character, and take your portrait as if your whole object was to show up and distinguish that special beauty or quality above all the rest ; make it step out of the ranks, as it were, and stand free and clear to observation and remark, and the chances are you will have achieved a much more pronounced success than if you had made a portrait in a general way, with no special object in view but take a photograph.

Try it and see if you don't think the idea is worth adopting and acting upon in your daily business.

Of course the man with the royal profile may only want a front view, and the lady with the large features may insist on a large-head bust, and if you cannot persuade them to your idea without argument, it is better to make what they order, and ask them afterwards to sit for another style just for comparison, then put in your emphasis, and possibly increase your reputation and your order at the same time.



HOW I USED MY CAMERA TWENTY YEARS AGO

BY L. C. BISHOP.

WHAT a pity it is that we have to spend the best part of our lives learning *how* to live! Could we only have that acquired knowledge earlier how much easier life would be and how much more we could make of it. Likewise in every profession one must spend many years learning how to accomplish one's work in the best and easiest way.

After twenty years of constant work in photography I find that in pursuing new processes I lost track of many things, things which were discarded because I lacked the knowledge which comes with experience. Had I been able to master my early difficulties much would have been saved me.

With my camera I was paying for an art training, but it never occurred to me, in those days, that photography and art could have anything in common. My camera was merely a tool, used much as one would use a rifle to shoot a bird. It received little care, in fact my old gun had more attention. If mud struck the lens it was wiped off, but seldom dusted. In the summer time I used my outfit (which had been purchased second-hand) to make groups, views, in fact, almost anything, from home portraits to copying. I cannot remember that anything balked me in those days.

I had little apparatus and what there was of it was of the simplest, so nothing ever gave me cause for serious worry. Once a sharp focus was obtained, the cap removed and replaced, the game

was mine and my customers paid three dollars a dozen without a murmur. Every summer I made enough money to keep me in school all winter.

On each subject I expended one Cramer plate, a 5 x 7, a two solution Pyro developer (just enough to cover the plate), a little bit of Hypo to fix after a rinse in alum water. When six plates had been developed and fixed they were placed in a wooden trough and water was pumped over them for about ten minutes. Even with up-to-date methods one cannot get better results than with the old pump, elbow-grease system. Lacking a drying-rack the plates were set up along the base-board in my room and allowed to drain onto folded newspapers.

Developing and reloading were always done after dark and in the morning I sent my printer to work, showing him how deep to print solid from each of the negatives developed the previous night. We seldom proofed groups, scenes or buildings for in nearly every case a definite order had been secured before the plate was exposed. It usually required exactly two gross of Solio and as many mounts to fill the orders from the twenty-four plates I nearly always carried. Every day I went out with my camera meant seventy-two dollars' worth of orders in process.

Operating occupied about three days a week, the toning and finishing were usually done on Friday and Saturday and the work delivered on Monday.

Correspondence was taken care of either on Thursday or Sunday, as suited best, or upon some rainy day when it was impossible to operate.

Taking an invoice was a matter of a few minutes' work as I used only plates, paper, mounts, hypo, gold, borax, alum, pyro, sulphite, sal-soda and cornstarch for paste. My printer, whom I paid one dollar a day, usually kept stock, but I always attended to the toning. There was enough work to keep the printer busy most of the time and in unoccupied moments he could make things handy for me when finishing.

This kind of photography was then about as simple as it was possible to make it and yet it was considered wonderful and was very satisfactory to those who bought it. We now look back and wonder how we worked so well with so little to do with, but, through the very simplicity of it all, we certainly escaped a great many of the present day complications. Of reducers and intensifiers I knew nothing, so great care had to be taken in developing the plates. Perchance a negative became too dense or lacked strength, it was handled in the printing. But there were few incorrect exposures because six double holders were filled with Cramer Crowns, all the others with Banners. For strong light the slower plates were used and the fast ones for all sittings made early or late in the day. The time of exposure was about the same for all subjects at all times, although the stops were varied occasionally—the most suitable one of the three being chosen. Any one of them gave a razor-sharp negative of anything that passed

through them—the choice having to do chiefly with the amount of light available.

While the fine old daguerreotypes and ambrotypes appealed strongly to me, I cared little for the large heads as the dry plate and paper made them. I did not care to bother with the wet process and the retouched dry-plate done by the studio photographer seemed to me silly, so I spent little time upon them. But when considerable of the interior of the home was wanted and the face could be rather small, I gladly accepted the commission. Groups and babies were made comfortably with the old F.16 single lens and cap. Does not that put to shame the modern worker who, with his F.4.5 anastigmat, hesitates to work by the light from a small window? There is something to be learned here. With this old single lens a baby could be put close up to the raw window light without any fear of lens-fog. The lighting was never hard because at F.16 it is not so pronounced and a reflector seems doubly effective. A sheet was used on the floor, which might cause a milky haze when using a modern, fast lens, but the old single one paid no attention to it. All windows were left open and it was surprising how well the faces looked if the plate was not over-developed. Another thing in favor of the old lens—the glass is tinted just enough to give a touch of color-value which you cannot get with the new glass unless you time full and cut down the sodas. F.16 in a single lens is much faster than the same F. value in a double lens, owing to the loss while passing through double glass. So there is not so much gained, in all

cases, over the old timers with the three little stops.

Care was taken as to temperatures when developing although a thermometer was never used. When it was warm enough to make one perspire out of doors the cellar was used as a dark-room, and in the winter a comfortably warm room was sought out. While this may not always be so sure as tricks for overcoming extreme temperatures, it shows that photography becomes complicated or simple according to whether or not one follows the line of least resistance.

A few weeks ago I visited my old home and found a few of my old negatives. Most of them were as good as ever. While in a barber-shop a man recognized me and told me his son owned one of my old lenses. Before I left I gained possession of it again for \$1.50. I had paid \$45.00 for it and the camera second-hand about twenty years ago. As soon as I reached my workroom I removed the old rotary

stop arrangement, replacing it with a small, home-made, pressed board stop working at an aperture of about F.7, and tried it out. All the extreme sharpness which had been so unpleasant to me and such a drawback to my work had disappeared. Had I only known this could be done when I first owned and used it! But then I knew very little about lenses and accepted things as they were. To tamper with the stops had never occurred to me, for father had taught me to leave a thing as it was as long as it worked without trouble. This old law now becomes valuable for the very quality I thought it lacked when I discarded it.

My advice to the amateur is: Familiarize yourself with all the workings and possibilities of your present outfit.

Experiment intelligently.

Gain all you can from the many helpful articles appearing monthly in the photographic and art journals. A subscription to them is money well spent.

ESSENTIALS FOR AMATEUR PHOTOGRAPHERS

BY C. B. PARKS.

THE real photographic fan should subscribe to a good, first-class photographic magazine when they buy their first kodak. For if they listen to all their friends they will truly have a wonderful(?) supply of pictures.

As a general rule, a magazine has certain formulae which they have tried out and found—not only good, but best. These ideas and formulae are discussed in every issue until even the novice can

get a working knowledge of kodakery. I believe there would be more readers if every one got as much help and pleasure out of them as I do.

First let us take into consideration the *psychology* of the question. Nearly every one who takes up photography likes reading. Now I do not mean the Sunday afternoon “snapper” who takes his negatives to some finishing house to be made into pictures, but to sure enough honest to goodness amateurs



A BIT OF NEW YORK
(Wilkes-Barre Camera Club Exhibition)

Geo. R. Reid

who would always do their best and promise themselves to do better next time. As I said this class of amateurs loves reading—they love the “feel” of good paper and the clean-cut pictures that can only be made on this kind of paper. Now comes the psychology of a good magazine.

In buying a magazine about which nothing is known, the purchaser will invariably pick out one with good pictures and printed on good paper. I have heard people say:

“Oh, that magazine can’t be much, just look at the paper. And in nine cases out of ten this is so, for the very obvious reason that an ambitious editor with discernment enough to pick good reading will only be satisfied with the best paper. Take any magazine that has been on the market for five years or longer and you will see the truth of my statement. The general make-up of a magazine will keep building up until the whole thing is par excellence, if not, it soon dies out.

Now, for the difference in subscribing for your paper and buying it from newsdealers. First, of course, is the actual saving of 30 cents (if it is a \$1.50 a year magazine, as most of the photographic journals are). Thirty cents are not much if you have more, so let us call it two numbers of this special paper. Two numbers! Well, I have seen a single number that has not been worth \$25 to me in the wealth of the actual information I obtained from it. In fact I have gotten ideas from a single number that has made me “good money.” Then how many times have we forgotten the exact date it is on sale at the newsdealers? We call and are told “It’s due to-morrow,” or we have

“just sold out.” First one thing and then another often prevents us from getting a particular number, then when it’s too late some friend says:

“I tell you the last number of the ——— is the finest thing out,” and that is the very one you failed to get.

Beside being secure in the knowledge that you’ll get yours whether the news-dealer does or not, being a subscriber makes you feel like you are “some punkins” photographically, which you will be if you follow directions. Now comes another thing that’s queer but true: If your subscription is for one year it will give you great pleasure, but if it is for two years your pleasure is double, three years it’s tripled, etc. I begin my pleasure of my magazines by reading on the wrapper how long my subscription is. So my earnest advice is to first pick out a good magazine and subscribe for as long a period as possible, even if I had to deny myself a few picture shows.

We have now picked out our favorite magazine and subscribed for, let us say, three years, which is about as much as the average pocketbook will stand. But, by the way, remember most magazines give some extra inducement, such as THE PHOTOGRAPHIC TIMES is now giving a profusely illustrated book, “Photographic Amusements,” with every new subscription. The regular price of this book is \$1.00, so that leaves the price of the magazine only 50 cents.

Now comes my way of getting the most good out of my magazine. First I read all the advertising *carefully*, and if there is a new one, offering a descriptive booklet or samples of any kind, I always answer at once. In this

way I not only keep up with new "kinks," but often get information obtainable in no other way. For instance, Hammer's little book, "A Short Talk on Negative Making" is advertised in nearly all leading magazines, and would be a great help to any beginner, while a large general catalog from Wright, Racine, Wis., keeps me posted on the prices of all chemicals, so when I read a new formula I can tell by looking through Wright's whether it is within my means to experiment with this formula. I also have an illustrated description of all photographic appliances.

I conscientiously try out all samples, writing results and thanks as soon as possible. In all my letters to advertisers I always mention the place I saw their ad., thus giving the magazine a "boost" while boosting myself, for "by the choice of reading matter is a reader known."

So much for the ads. If it pays to advertise, it certainly pays to answer the advertisers.

Next comes what I call my criticism. I have some half dozen pieces of Melton 10-ply cardboard, 5 x 7 inches outside measurement, with different size openings cut from the center—two openings are ovals, 3 x 5 and 4 x 6, the other four are 3 x 4, 3 x 5, 5 x 7, and 4 x 8. I cut two strips one inch wide and eight inches long and my "criticizing tools" are complete. I now lay my book flat on a table and begin. That is to me one of the greatest helps to better pictures. I first look at the pictures, noticing the composition, then comparing the tones—that is, seeing how the light parts run into the darker—noticing the vertical and horizontal lines,

etc. Then with my cardboard I "cut" out sections of the picture, try different shapings of the picture. With the ovals I "shape" portraits mostly, although a good many pictures with corners not to my liking can be greatly improved by "cutting" off the corners with an oval. Unless you have tried this method of criticising pictures, you have neglected one of the greatest helps offered you by your journal.

Now for the reading matter. Do you believe everything you read? I decidedly do not, but I am willing to be "shown." I begin first with some article that catches my fancy, and read it thoroughly, then if I do not quite agree with the writer, I "argufy" it out with him. If there are formulae in connection with the article I try them out until I satisfy myself which one of us are right. Sometimes I am convinced that all my ways are by no means best, while sometimes I am glad to know a better way than some folks. Thus on until I have read and re-read the whole magazine. And I have never yet seen a single copy that I have not only thoroughly enjoyed but have learned something valuable.

No, I am not yet through with my enjoyment. I have a good sized indexed ledger which I use to "index" all my magazines. For instance, I opened my ledger at random at "S" and find this:

Silvering Mirrors—Oct., 1914, *Popular Photographer*.

Simple Way of Making Large Pictures—Oct., 1914, *PHO. TIMES*.

Soft Focus Lens—*Am. Photographer*.

As I began this ledger as far back as 1910 I am nearly ready for another

one. All magazines are kept stacked on book shelves made especially for them.

Now there are several points most magazines try to impress on their readers, the primary one being that the magazine is printed for the benefit of the *subscriber* and *not* for the subscribers' money. This is very true, for the subscription price is a mere pittance in comparison with the expense of the publication. The running expenses and the profits are really from the advertisers. All magazines welcome criticism and complaints, as well as "boosting" and praise.

A just criticism is not always flattering but is always helpful. Very much like a dose of nasty medicine—

bad to swallow, but very beneficial at times.

A helpful knock is often better than a deceitful handshake.

A good, swift kick moves one further along than a gentle pat on the back.

But also remember, a sugar-coated pill will have just as good results, and not leave as bad a taste in the mouth.

Also.

A little flattery now and then is relished by the wisest men. We must "temper" our bad criticisms by sincerely praising the parts of the magazine we do like.

At least, all who read this, try my way of enjoying and learning and I am sure you will never again skim through your favorite magazine.



A NEW TOY

(Wilkes-Barre Camera Club Exhibition)

W. H. Evans

A HINT TO BEGINNERS

With Five Illustrations.

BY F. FAY GUTHRIE.

SOME six months after I purchased my camera I was looking over the results of my photographic attempts and was struck with the similarity of the prints. In fact my album was a veritable photograph gallery of my friends. This one perched gracefully on a stump, another sitting on a fence, some half dozen leaning, smilingly, over a rustic bridge, and so on by ones and two and groups. And, as I turned the pages of my album, there floated back to memory some comments made by these people on viewing the proud results of my first photographic endeavors.

"Ha! ha! do I look like that?" "Isn't my picture just awful?" "How funny my skirt hangs!" etc., etc. Now I was forced to admit that not all my first attempts at portraiture were flattering, though I had from the first tried to avoid ungraceful poses, strained expressions, and above all direct sunlight, which will cause even the most handsome to bear a striking resemblance to our Darwinian ancestor. But, this is the point of which I suddenly became aware. "I was paying the piper," and *no one was pleased*. Clearly my friends were not, and I—well, as I looked at that bunch of prints I felt like throw-



Jeanne in the Bath



Charlotte



Our Indian Brave



The Picture Book

ing them into the fire. And then and there I made the resolve that some one was going to get some pleasure out of my photographic experiments and that person might as well be myself.

I had had a few back numbers of THE PHOTOGRAPHIC TIMES lent me. These I had read with a great deal of interest, in one article which had specially appealed to me, the author advised all beginners to take up one branch of photography and stick to it until some proficiency is attained, rather than to snap every thing which fancy dictates without gratifying results.

In casting about in my mind as to which branch it would be best for me to take up, I decided on child portraiture. Landscape work interested me, and I would have preferred to have taken up

that, as I considered it much easier than child photography (I was at this time blissfully ignorant of the meaning of the word "composition" and its attendant tribulations). But I live in a city and am situated some miles from anything which might be called a landscape and, well, I love children. Perhaps, after all, that is the real reason why I took up this branch of work.

As a result I have an album of photos of my little friends, natural, truthful likenesses, not prize winners, perhaps, but many of them passed upon by a jury of the child's relatives and pronounced "too sweet and dear for anything." Also I have derived much, very much pleasure from my work, besides making it quite remunerative.

In our city the professionals have not taken up "home portrait" work, thus

this field is left entirely to amateurs. And I have found it a wide field. Many parents desire to keep a record of baby's growth from month to month by means of photographs, and while they like professional work on special occasions, many people prefer the little ones taken in the "homey" surroundings. In the garden amid the flowers in summer or with their books and toys in winter they are much more apt to look natural than when dressed in their Sunday best and posed in the formal atmosphere of the studio. "Jeanne in the Bath" is most decidedly a home portrait, and though technically it would not compare very favorably with studio work, I would be willing to wager that when that young lady (!) is twenty-one her parents would not be willing to trade it for work done in the finest studio in America.

Any one who loves children will find this work a delight, but here let me

drop a hint for the benefit of any beginner who may wish to take it up. Love for and interest in children will be more instrumental in gaining results than the most expensive apparatus on the market. Gain the child's confidence, be interested in his toys, let him feel that you are his friend, and he will assume the most charming poses and expression without a suggestion from you.

I have noted still another result of my sudden resolve to waste no more plates and chemicals on the friends who made such unflattering comments on my first luckless endeavors. Each and every one is the possessor of some small picture-taking machine, and herein lies the very worst rub of all—the unbounded admiration which they bestow on *their own* "sun kissed" efforts.

Ah, well! who was the author who said, "I should worry!"



TIRED OUT

THE CHEMICALS AND UTENSILS NECESSARY FOR
SUCCESSFUL AMATEUR PHOTOGRAPHY

BY ALFRED J. JARMAN

THE making of photographs from the exposure of the film or plate to the finished picture is not generally carried out by the amateur photographer. The usual plan of making an exposure upon a roll of film or upon plates is generally finished by handing these exposures to some person or firm to do the developing, and make the prints for the reason that it saves so much trouble, or, at least, it is thought that it is the means of saving trouble. When one will think the matter over well, and further consider the number of bad negatives, made by an indifferent developer, and only too often by carelessness in the handling of the films or plates by those who have been entrusted to do the developing (this statement is made with an actual knowledge of the facts) the results would have been very different if the amateur had undertaken to carry the whole process through himself. Many times, although not in every instance, negatives of an excellent quality would have been the result, and the amateur would have been both pleased and gratified. To become successful in the line of amateur photography it is necessary to know how to commence, both in the materials required and the utensils. The object of this article is to give the desired information, and as far as possible, to place the amateur upon a sound footing so that he may start right.

The first essential is to possess a good camera and lens, and owing to the large number of such pieces of apparatus upon the market there will be no difficulty experienced in securing one of these when purchased from a reliable dealer in photographic material. To become proficient in a comparatively short time will no doubt be the aim, and to do this it will be assumed that a plate camera is used and the size of plate being 4 x 5. Of course a roll film camera may be used by many, but the aim will be to bring about proficiency in the production of negatives, whereby each plate may be developed separately, and by this means enable any plate to be developed according to the time of exposure, so that if the first plate is over or under-exposed, and the rest have been exposed under similar conditions, then those plates that follow may be so treated, that, at least, eleven good negatives may result from twelve exposures and the only way to do this will be to make a fryout upon one plate so as to form a guide for the remainder.

UTENSILS REQUIRED.

Two trays, *deep*, 4x5, preferably of hard rubber; one fixing box, 4 x 5, of the moulded type, costing about \$1. One zinc washing box capable of holding one dozen negatives; one two-ounce and one 8-ounce glass graduates. Two *deep* 8 x 10 trays made

either of compo or paper mache (these are for print washing); a fair sized ruby lamp, fitted with *two* pieces of ruby glass with a piece of yellow tissue paper placed between them. Several sheets of good white blotting paper or board, one dozen wood clips, and scales to weigh from 1 grain to 1 ounce.

CHEMICALS REQUIRED.

Hydroquinone, two ounces; metol or satrapol, one ounce; hyposulphite of soda, three pounds; half a pound of acetic acid No. 8; one pound of dry sulphite of soda; one pound of dry carbonate of soda; half an ounce of potassium bromide; four ounces of chrome alum; one pound of common alum (powdered), and several stock bottles of various sizes, with clean, well fitting corks. Wide mouth bottles are to be preferred, because of the ease in either emptying or refilling, thus preventing loss of material.

Preparing the stock developing solutions, the following developers have been worked by the writer for the past two years and can be recommended for reliability, for use for either plates, films, or paper prints, either bromide or chloride.

DEVELOPER NO. I.

Hot water. 10 fluid ozs.
Satrapol or metol. 30 grains
Hydroquinone. 30 grains
Dry sulphite of soda. 2 drams
Dry carbonate of soda. . . . 3 drams
Bromide of potassium. . . . 10 grains

Mix the above in the order given, shake the mixture well, allow it to become quite cold before use. This developer can be used for either plates or films; it gives strong, vigorous negatives. If used for paper prints, it must

be diluted with an equal volume of cold water. The following developer may be used for plates, films, or paper prints without diluting:

DEVELOPER NO. 2.

Hot water. 20 fluid ozs.
Metol. 50 grains
Hydroquinone. 15 grains
Dry sulphite of soda. 2 drams
Dry carbonate of soda. . . . 4 drams
Bromide of potassium. . . . 6 grains

Mix in the order as given, and after shaking the mixture well, permit it to become cold gradually. A good plan to adopt is to make up the developer one evening and allow it to stand until the following evening, when it will be found to work admirably.

Fixing solution for plates and films:

A.

Water. 24 fluid ozs.
Hyposulphite of soda. . . . 8 ozs. av.
Dry sulphite of soda. . . . ½ oz. av.

B.

Water. 16 fluid ozs.
Chrome alum. ½ oz. av.
Commercial sulphuric acid. 30 drops

As soon as the salts in both A and B are completely dissolved, add B to A, stir well, allow the solution to stand for a few hours, then decant the clear liquid into a wide mouth bottle, to be used as a stock bottle, when the 4 x 5 fixing box may be filled ready for use.

Fixing solution for paper:

A.

Water. 20 fluid ozs.
Hyposulphite of soda. . . . 4 ozs. av.

B.

Water. 10 fluid ozs.
Common alum. ½ oz. av.
Acetic acid. ½ fluid oz.

When the salts are dissolved, add B to A, shake the mixture well, let it

stand for several hours, then filter the liquid so as to free it from any deposited sulphur, the resulting clear liquid is then ready for use. Having the above solutions ready proceed to expose a couple of plates, to begin, focus the object upon the ground glass, either a view or portrait. If a street view, focus with a full aperture of the lens, then stop down to F.32, if the sun is shining, or if the light is very bright, close the shutter, by pressing the bulb, or place on the lens cap, arrange the exposure for 100th of a second. Now arrange the camera for a portrait (in this case it means out of doors), assuming the light is very bright, focus the object stop the lens down to F.32, and give an exposure of one second. Now repair to the dark room, pour out four ounces of the No. 1 developer into a glass graduate, see that the ruby lamp is in proper trim, with a good burning flame, place the first exposed plate into the tray, then in one sweep pour on the developer, cover the tray with a piece of brown cardboard, or better still, a piece of cardboard, size 5 x 6, covered with black paper, rock the tray gently, now lift the cardboard cover, when it will be seen that a well defined image is making its appearance; continue the development for another minute, when the developer may be returned to the graduate, the plate washed in the tray, under the faucet, then placed in the chrome alum fixing solution; let it remain in this for about ten minutes, when it may be removed and washed, under the faucet, when upon examination a beautiful, clean and clear full bodied negative will be the result. To be quite sure that the

timing of the exposure has not been overdone, the safest plan to adopt will be to place a separate *three ounces* of the developer in a small, wide mouth bottle, to which six drops of a 10% solution of potassium bromide has been added, in addition to that already contained in the developer when first made up; then by employing this solution upon the first plate it will be readily seen that if the exposure has been too long, this highly restrained developer will hold the reducing or developing action in check and permit perfect development. Should this developer, however, appear to act slow, and the image appear tardily, then, pour the developer into the special bottle, rinse the plate under the faucet, quickly, drain the excess of water off and pour on about three ounces of the normal developer, when it will be quickly seen that the image will rapidly appear; then development may be completed, and the plate fixed in the chrome alum fixing bath. By this method of procedure, certainty of result is assured. A minimum number of plates used, the maximum of good results obtained, as well as a correct way of development, and a knowledge gained that cannot be acquired by any other means. The development of films may be conducted in like manner, by using a highly restrained developer in the first place, so as to enable one to feel there may be correct development. Assuming that a number of plates have been developed, and good negatives obtained, prints may now be made with any of the developing papers that are upon the market by proceeding in the following manner:

Take a 4 x 5 tray, half fill it with

the diluted No. 1 developer, or by the No. 2; place the negative in an ordinary printing frame, place in the paper, close the frame, cover the front of the frame with tissue paper, hold the frame up to a good gas jet, or to a 16 c.p. incandescent lamp, about a foot from the light; now remove the exposed paper, clip it at one corner with a wood clip, dip it quickly beneath the developer, and watch the result under the ruby light, (one piece of ruby glass will suffice for this work). Carry the development until the print *appears* to be a little overdone (this is necessary when working under the ruby light), then remove the print, dip it into a tray containing an acid water made by mixing two drams of acetic acid No. 8 with six or eight ounces of water. This will stop development at once and keep the whites of the print clean. Only a dip is necessary in this acid water; then place it at once into a tray containing the acid fixing bath for paper; ten minutes in this bath will suffice, then remove the print or prints, place them into a tray of clear cold water; now examine any of them, when it will be found that more brilliant, clean and clear prints, with pure blacks and whites cannot be surpassed by any known means; prints that will show when dried, and trimmed, that

they have rewarded the amateur for the care and pains he has taken to produce them; prints that he can be proud of, for by comparison with much of the usual work are superior in every way. By the above method of working, any amateur who is determined to succeed will attain his desires by the shortest and quickest route.

All the solutions here given may be used over and over until exhausted, although it will be better to add a little fresh developer to that last used, which will give the finest results, both with plates, films and paper. The fixing solutions may be used until exhausted, and then, of course, renewed. Be sure and wash every utensil after use, stand to drain upon blotting paper; use each tray for its respective purpose; don't mix things up by contamination; take care, be particular, and the reward will be faultless work, and a practical knowledge obtained that will put one in good stead at all times because of the facts and exactness acquired and gained from the mill of actual experience.

In the matter of film development, there are times when some of the exposures are hopelessly overtimed, while with others, they are equally undertimed, in such cases it will prove to be a helpless case to save them.





CURRENT EVENTS *and* EDITORIAL COMMENT

IN announcing some changes we were making in the arrangement and make-up of our magazine in our April number we closed with this sentence: "We solicit the constructive criticism of our readers at all times, whether it be favorable or otherwise, as we value the remarks of those who are most interested in our periodical."

One of our readers writes as follows: "In a personal letter as well as in the April number you invite constructive criticism of the THE PHOTOGRAPHIC TIMES. My experience has been that criticism is generally destructive rather than otherwise. A crowd of us started to criticise each others pictures and we developed a first-class Knocker's Club, which needed no hypo to stay fixed. We were so busy looking for faults that we failed to see any good. A few words of praise would have been a stimulant to better work. I believe I am the only one in the lot who takes any pictures now. What is needed in almost any work is helpful suggestion, a building up, and not tearing down. I have read THE PHOTOGRAPHIC TIMES for years, along with other photographic journals and in my opinion you have improved a great deal, for your last number is miles ahead of the first one I received.

Give the readers as much as possible for their money—more in fact than they can get elsewhere."

We quite agree with our correspondent regarding criticism, and regret that in his own experience of criticisms, malice and envy played too large a part which should have been mutual co-operation in pointing out, not alone the faults that needed correction, but in acknowledging the good points in each picture. Our readers' criticism is still invited, whether favorable or otherwise, and it is our plan to give as "much as possible—more, in fact, than they can get elsewhere." If you have any suggestions wherein our magazine can help you and which will help others, send in your suggestions. If practicable and if not conflicting with other matters pertaining to our magazine, they will be adopted.

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On another page we reproduce the First Prize in the Amateur Contest conducted by the Country Life Permanent Exposition, held in the Grand Central Terminal, New York. We should have liked to reproduce the other prize pictures but they were of such a nature that the full values could hardly be brought out in half-tone reproduction.

ENTERTAINMENT AT NATIONAL CONVENTION PHOTOGRAPHERS' ASSOCIATION OF AMERICA, INDIANAPOLIS, JULY 19TH TO 24TH.

The photographers who are privileged to attend the National Convention this year will be most highly entertained all during the week.

The festivities will begin on Monday evening with an informal reception and dance on the Roof Garden. Thirteen hundred people can be accommodated at one time.

Carnival Day—Tuesday. Progressive luncheon will be served from the manufacturers' and dealers' booths—sandwiches at one booth, iced tea at another—and so on—so that a circuit of the entire hall will be necessary to complete the bill of fare.

Appropriate souvenirs will be distributed and carnival paraphernalia will be in evidence. Formality will be thrown aside on the first day of the Convention. The day will be concluded with an informal dinner dance on the Roof Garden in the evening.

Thursday evening will be spent at Broad Ripple Bathing Beach, which is one of the largest artificial inland bathing pools in the country and will accommodate ten thousand people.

On Friday there will be a rare treat that can be enjoyed at no other place but Indianapolis. A race on the Speedway by professional drivers will be given exclusively for the photographers attending the Convention. The drivers will race for real money, too, for a special purse will be provided by the Indianapolis Convention and Tourists' Bureau.

Of course, there will be a lot of en-

tertainment that is not mentioned on the program, so come to the Convention and you will be sure to have one of the best times of your life.

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Several months ago I noticed an article by Mr. Chas. I. Reid regarding the making of a stand for broken graduates, with plaster paris. This method is satisfactory, but I alter it by using glue and paper with the plaster paris. Tear the paper into very small pieces. Place the glue (bulk glue preferred) and paper in a pan and cover with water. Boil for 30 or 40 minutes. Use equal quantities of glue and paper, and enough water to pour easily. Mix with equal quantities of plaster of paris and when setting add one-fifth as much glue as plaster paris.

L. S. BURWELL, NEB.

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ORANGE (N. J.) CAMERA CLUB.

Plans are being made by the Orange Camera Club to carry on aggressive work in slide and print making during the months to come. Another class in slide coloring will be formed and an effort will be made by William G. Barnes, chairman of the slide committee, to have discussions on the various slides of the interchange sets, with a view of developing better work among the Orange photographers. There also will be demonstrations in advanced slide making by experts.

The interchange set made by members has been set out on its extended tour of the big clubs of the country and probably will not return for a year or two. The set is said to be the finest ever turned out by the club. A new set is being made.

Announcement will soon be made of the annual print exhibit.

The library has been opened to members with permission to take books home for study for limited periods. Another section will be added to the bookcase to accommodate new literature.

In the May bulletin, a little monthly publication of the club, President Stephen S. Johnson makes an appeal for an increased membership and also for a resumption of the former custom of many members of meeting Sunday afternoons at the club rooms in the Decker building for social intercourse and the exchange of ideas.

The monthly meeting of the board of governors was held Saturday, May 8, and the regular club meeting May 15.

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Proctor's 23rd St. Theater is in the heart of New York's most famous shopping district. The entertainment consists of the highest class vaudeville and feature photo plays, the latter being confined to pictures with a reputation. Popular prices hold sway. This cozy little theatre has been entirely remodeled in the past two years and it boasts a peculiar clientele made up principally of ladies and children, which speaks well for this class of entertainment given. It is Mr. Proctor's ambition at this playhouse, as in all of his other theaters, to keep the performance clean and moral at all times. Years ago it was known as "The Ladies' Club," and the name could be legitimately be revived to-day. Visitors to New York are invited to attend.

WASHING PRINTS.

The bath-tub at your home is quite a handy place to wash prints. It is much better than immersing same in the tray.

I handle as much as one hundred 4 by 5 prints without any trouble.

I fill the bath tub with about three-quarters with water (at that depth there is in all tubs an outlet for the water to prevent an overflow). The water is continually running and changing, and every five minutes I run my hand through the water so as to change the position of the prints, to insure equal washing of all prints.

This operation is continued for about an hour. Prints washed in the above manner will remain permanent indefinitely.

F. N.

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A "DODGING" TRICK.

If printing with an ordinary kerosene lamp, smoke one side of the chimney. In printing good negatives turn the smoked side to the back, but should a negative print too fast in one place, turn the smoked part to shade that part of the negative.

The amount of bromide to put in the developer depends on so many different things that it is rather a difficult matter to get the correct amount without danger of ruining a print or two. This is easily prevented by cutting a small strip of paper intended for the prints, immersing it in the developer for twenty or thirty seconds. If the strip remains clear, the amount of bromide is correct; if the strip is fogged or streaky looking, add a few drops more of the bromide; if the strip is olive or greenish color, too much bromide has been used.

C. B. P.

The following which we reprint from *Photography*, under the caption of Practical Paragraphs, are of sufficient interest to warrant our inserting them in our pages:

ACCIDENTAL PINHOLE IMAGES.

One of the causes of mysterious markings on negatives is the presence of a minute hole in the camera front, which may easily go unnoticed, but which, if the slide is left drawn for any length of time while one is waiting to make an exposure, may cause a pin-hole picture of any bright objects before the camera to imprint itself upon the plate. The most likely source of such a pinhole is the loss of one of the screws which hold the lens flange on to the camera front.

THE SURFACE FOR TRIMMING.

Opinions differ as to the best surface on which to trim prints. The old handbooks used to recommend either a sheet of plate glass or zinc; but few photographers would be likely to employ either to-day. Zinc soon gets scratched and useless, or at least undesirable; while both zinc and glass are open to the objection that they are very severe on the edge of the cutting glade. On glass, moreover, unless something is done to prevent it, the print slips about and makes it necessary to use great care to avoid making a cut where it is not wanted. To prevent this, smearing the glass with mountant and letting it dry has been suggested; while with the same object some workers keep an old negative on which to do the trimming, using the film side, of course. A better plan than either is to use a sheet of linoleum. This blunts the edge of the knife pretty quickly, and so the cut

should not be carried further than is actually necessary to trim the print; but there is no risk of turning the edge as there is with glass or metal. A sheet of cardboard may be used for the same purpose, or a smooth pile of newspaper; but linoleum seems to offer more advantages than any.

MOUNTING PRINTS ON WOOD.

For certain purposes it will be found very effective to mount a print not on a card but on a wooden panel, a well-toned silver print being as suitable as anything for this process, although some excellent results may be obtained by a judicious selection of carbon tissues. The panel should be finished dead smooth with fine glass-paper, and may then be stained, if this is thought to be necessary. Any of the ordinary mountants may be used; but glue made not with ordinary glue but with the white gelatine sold by oilmen, used very thin and very hot, is perhaps the best of all. It will be found a wise precaution against warping to glue a waste print on the back of the panel in exactly the same way as the other print is glued on the face. When the glue is quite dry, either the print may be left as it is, or the whole front, picture and wood, may be varnished. If this is to be done, it should first be sized, for which purpose the glue, thinned down, will serve. It should be just warm enough to be liquid. When this is dry, one or more coats of white hard or of oak varnish may be given. Prints mounted in this way can be washed with a wet cloth, and need no glass on them. The varnish also helps to enrich the shadows and gives them depth.

CLEANING PRINTS.

Some prints, especially those with a matt surface, seem to pick up dirt very readily, and it is an easy matter to injure them in the attempt to remove it. The best plan to adopt is to place the print face upwards on a smooth pad of newspaper, put a few pieces of stale bread crumb on it, and rub these all over gently with the flat of the hand. The darkening of the bread soon shows how the dirt is coming off. The bread is then dusted off with a clean handkerchief. Any dirt or grease which the bread will not remove will generally yield to a tuft of cotton wool dampened with petrol and rubbed gently over the surface.

OVER-PRINTED PLATINUM PRINTS.

At the present price of platinum the process is so costly that one cannot afford to waste a single piece of the paper, if this can be in any way prevented. If a print is only a little over-printed, it may be saved by the use of a developer containing about one third of its bulk of glycerin. The two must be thoroughly mixed together, and the developer applied to the face of the print with a broad brush, or by pouring it over and guiding it with a glass rod or a scrap of sponge. This has no other effect than that of making development much slower, so that it can be watched. Just before the picture seems as deep as it should be it is placed as quickly as can be done in the acid bath, the face being sponged over to make sure that the acid reaches the whole of it as quickly as possible. In worse cases of over-printing the paper may be passed once or twice through a basin of water and then placed in the ordinary developing bath. Neither

method will give quite so good a print as if the paper had not been over-printed in the first instance; but the results are generally very fair indeed, far better than could be hoped for had the ordinary developing process been followed throughout.

YELLOW NEGATIVES.

There are still some who hold that a yellow or brown stained negative gives a better print than one with a clear black image without any stain at all; but this is a misapprehension. The stain is merely so much foreign matter which delays printing and the production of which is not very controllable. Modern dry plates by any of the leading makers will give far more density than any of the existing printing processes are capable of dealing with, and if for any reason the photographer finds himself unable to get that density in an unstained negative, it is very much better for him to seek out the cause of his failure and to remove it, rather than to rely upon any discoloration of the film. The color of the pure silver image is black, and the gelatine where there is no image should be as clear as glass and perfectly free from any color tint. So long as we rely upon the gelatino-bromide process at all, as we must do for all negative work at the present day, we should endeavor to obtain negatives of which the color indicates that it is to silver and not to any products of the oxidization of the developer that the picture is due. This is not to suggest that a good negative should have "clear-glass" shadows; the perfect negative will have some deposit everywhere except where the rebates of the slide or sheath have protected it.

**\$3,000 IN CASH PRIZES FOR PICTURES
ILLUSTRATING KODAK ADVERTISING SLOGANS**

For the best photograph illustrating any one of the five following slogans we will pay \$300.00:

For the second best photograph illustrating any one of the five following slogans we will pay \$200.00:

THE FIVE SLOGANS

Class No. 1. *Take a Kodak with you.*

Class No. 2. *All out-doors invites your Kodak.*

Class No. 3. *There are no game laws for those who hunt with a Kodak.*

Class No. 4. *Let the children Kodak.*

Class No. 5. *Write it on the film—at the time.*

A NEW SLOGAN

(For Autographic Kodak Adv.)

Class No. 6. For the best new slogan, together with a picture illustrating same, we will pay \$500.00.

HERE IS OPPORTUNITY

The first five classes in the 1915 Kodak advertising competition suggest definite lines along which the illustrative work is to be done. The sixth class gives opportunity for you to exercise *both* your illustrative genius and your advertising ability.

The successful pictures are always the bold ones that bring out forcefully the Kodak advantages or are convincingly suggestive of the delights of picture making by the Kodak system. Pictures that are merely good landscapes or views or portraits, are not wanted. Pictures that denote action with the Kodak are the ones that will capture the prizes.

The work is interesting. Moreover photographs are being more and more

used in advertising. It's a line of photographic endeavor worth entering—and the cash prizes are worth while.

Terms:

1 Each picture is to contain a figure or figures and is to be suitable for use as an illustration in advertising the Kodak or Kodak system of amateur photography.

2 Pictures may be of any size, but as they will often be reproduced in large size, large pictures will, *everything else being equal*, be given the preference.

3 PRINTS ONLY are to be sent for competition—not negatives.

4 Prints must be mounted but not framed and the slogan intended to be illustrated must be written plainly on mount. (Mounts should show about one inch margin.)

5 No competitor will be awarded more than one prize in one class, nor a total of more than two prizes. (This does not prevent a competitor from entering as many pictures as he may desire).

6 Due and reasonable care will be taken of all non-winning prints, and, barring loss or accident, they will be returned to their owners at our expense, but we assume no responsibility for loss or damage.

7 The negatives from which all prize-winning prints are made are to become the property of the Eastman Kodak Company, and are to be received by it in good order before payment of prize money is made.

8 Contestants who are awarded prizes must also furnish to us the written consent of the subject (in case of a minor, the written consent

of a parent or guardian) to the use of the picture in such manner as we may see fit in our advertising.

Note—Blank forms will be furnished on application.

*9 All entries should be addressed to Eastman Kodak Company, Advertising Department, Rochester, N. Y.

*Entries from Canada should be sent to the Canadian Kodak Company, Toronto, Canada.

10 In sending pictures, mark the *package* plainly, "Kodak Advertising Contest," and in the upper left hand corner write your own name and address. Then write us a letter.

11 The name and address of the competitor must be legibly written on a paper and enclosed in a sealed envelope in the same package in which the prints are forwarded. There is to be no writing, except the slogan, on prints or mounts.

12 We will promptly acknowledge the receipt of pictures, and when awards are made, will send each competitor a list of prize winners.

13 This contest will close November 1st, 1915, at Rochester, N. Y., and October 20th at Toronto, Canada.

SUGGESTIONS

First of all, it should be remembered that these prizes are not offered for the sake of obtaining sample prints or negatives made with our goods. *Merely pretty pictures, merely artistic pictures will not be considered.* The pictures must in some way connect up with the Kodak idea—must show the pleasure that is to be derived from picture taking, or the simplicity of the Kodak system, or suggest the excellence of Kodak

goods. Must, in short, help to sell Kodak goods, by *illustration* of some one of the many points in their favor.

The jury will be instructed to award the prizes to those contestants whose pictures, all things considered, are best adapted to use in Kodak advertising.

As reproductions of the pictures will often be made in small sizes, too much detail should not be introduced.

Pictures for reproduction should be snappy—vigorous, for they lose much by the half-tone process.

Where apparatus is introduced, it must be up-to-date. If you haven't the goods, you can borrow.

It is highly probable that we shall want to secure some negatives aside from the prize winners. In such cases special arrangements will be made.

THE JUDGES

The jury of award will consist of photographers and of advertising men who are fully competent to pass upon the work submitted. Full attention will be paid therefore to the artistic and technical merit of the work as well as its strength from an advertising standpoint. Announcement of the names of the judges will be made later.

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The permanent emblem which has been selected by the Executive Board of the Photographers' Association of America as a button to be worn by its members, embodies the Daguerre Memorial, which was erected five years ago by the Association in commemoration of the fifty years of the develop-

ment of photography, and honors the man who is probably entitled to the credit for having discovered photography, more than to any other one man.

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The Sixtieth Annual Exhibition of the Royal Photographic Society of Great Britain will be held Monday, August 23rd, till Saturday, October 2nd, 1915, at the gallery of The Royal Society of British Artists.

The Royal Photographic Society's annual exhibition is intended to bring together a thoroughly representative collection of all that is best in pictorial, scientific and technical photography, and the Council hopes that this will be accepted as a cordial invitation to submit new and distinctive work under these heads. The exhibition is international in character, and is open to members and non-members, professionals and amateurs alike without distinction. The Coun-

cil will welcome the friendly co-operation of photographers, at home and abroad, in its efforts to make the forthcoming exhibition a worthy successor to those which have preceded it, and a true reflection of the present position of photography in all its branches.

Prospectus and general information regarding entry forms for the different sections will be furnished by the Secretary, The Royal Photographic Society of Great Britain, 35 Russell Square, London, England.

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Portrait, for April, is very attractive in its gray and white cover, with a handsome portrait, in medallion, of Frances Geissler. The inside is filled with the usual wealth of interesting and valuable articles.

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The 1915 Kodak Catalogue is now being distributed. It is full of new



SUMMER TIME

Floyd Vail

things, which should interest all camera owners. The front half contains descriptions, illustrations and prices of the new Autographic feature of Eastman Kodaks, from the Vest Pocket size to the 3A size. Also prices and information regarding the equipping of Kodaks with the Autographic Backs. Full information is also given regarding the well known Brownie Cameras, Film Tanks, Portrait Attachment and other standard products and accessories of the Eastman Kodak Co. Your dealer can supply you with one of these Kodak catalogues or write direct to Eastman Kodak Co., Rochester, N. Y.

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We are in receipt of an advanced copy of the Velostigmat Lenses catalogue issued by the Wollensak Optical Co., Rochester, N. Y. "Velostigmat" is a trade name adopted to distinguish anastigmats made by this company from those of other manufacture, and is derived from the Latin, meaning velocity and stigmatism. The typographical "get up" of this book is very pleasing, and rather unique. The illustrations showing the results obtained from the different series of these lenses are of the intaglio process, cut flush without margins and tipped on a deckle edge antique finish paper, the pages being of oblong shape.

Extreme care has been given in the compiling of the facts and data concerning each of the series of these popular lenses, and the broad guarantee which accompanies the sale of these lenses leaves no opportunity for anyone who is in need of a first class

lens to hesitate about taking advantage of their liberal trial offer without obligation. The sale of a Velostigmat is never considered closed until the purchaser has acknowledged satisfaction. Surely more than that could not be asked. The Promotion of Trade Department is at your service, to assist in the selection of lenses best suited for your class of work, and the whys and wherefors of each type of lens and its particular use.

☆ ☆ ☆

One of the most useful of booklets put out by manufacturers is "*Useful Tables for the Photographer*," issued by the Bausch & Lomb Optical Co., 626 St Paul St., Rochester, N. Y.

The booklet contains the Comparative Table of Diaphragm Numbers, Reducing and Enlarging Tables, Table of Depth of Focus; Distances, Lens to Subject; Table of View-Angles and also Shutter Speeds for Moving Objects. Suggestions for the care of lenses is also given, and notes regarding Equivalent Focal Length, Back Focus, Angle of View, Speed of Lens, Depth of Focus, Anastigmats, Ray-filters and Air Bubbles. A copy of this booklet will be sent to those of our readers who are interested.

☆ ☆ ☆

The Woodworth Exposure Meter for determining the correct exposure without calculations or adjustments is giving entire satisfaction wherever used by amateurs or professionals. Sent postpaid upon receipt of 20 cents.—Woodworth Machine Co., Angola, Ind.

The Ansco 1915-16 catalog of amateur cameras contains many new features to which we call attention.

ANSCO FOLDING CAMERAS

The round cornered aluminum Ansco series comprises three classes, designed as Symmetrical Class, F 7.5, Anastigmat Class and F 6.3, Anastigmat Class, according to equipment. Each class embraces three models. Each model in the symmetrical and F 7.5 anastigmat classes is supplied with choice of two shutters.

The entire series of round-cornered cameras consists of fifteen models with a price range from \$15.00 to \$55.00. The series makes a broad appeal to the amateur. In general the price of these cameras is \$2.50 to \$5.00 lower than the same styles last season.

ANSCO VEST POCKET

The popularity of the Ansco-V.-P., to take a $2\frac{1}{4} \times 3\frac{1}{4}$ inch picture, and the demand for the V.-P. model with a higher lens equipment than a single achromatic have brought into being the Ansco V.-P. No. 1 with a rapid rectilinear lens, at \$9.00, and the V.-P. No. 2, which is a focusing camera with anastigmat lens.

The Ansco V.-P. No. 2 may be had with either F 7.5 (Modico) Anastigmat at \$15.00, or F 6.3 Ansco Anastigmat at \$25.00. The micrometer focusing device with which it is equipped is a feature unique in camera construction. It consists of a milled disk and flange just back of the lens plate which may be operated with the finger and the thumb while locating the object in the finder. It is instantly adjusted by a simple turn of the disk.

THE ANSCO FILM PACK

To satisfy an insistent demand on the part of film-pack camera enthusiasts, Ansco Company announces in the 1915 catalog a film pack which is essentially different in principle from other packs and which marks a distinct advance in film-pack photography. The characteristic features of the Ansco Film Pack are: The single tab, which prevents errors of manipulation in the camera and perfect focal plane, so necessary especially when using an anastigmat lens which allows no leeway in focal distance.

The Ansco Film Pack may be used in any film-pack camera, or, with a suitable adaptor, in any plate or film camera, and is loaded with Ansco Speedex color value film.

A copy of this catalogue may be obtained from your dealer or direct of the Ansco Co., Binghamton, N. Y.

☆ ☆ ☆

ILLINOIS COLLEGE OF PHOTOGRAPHY

The commencement exercises of the Illinois College of Photography were held Friday evening, April 30th, in Engraving Hall, the address being made by Hon G. M. Le Crone of Effingham. The graduates numbered sixteen.

Class motto: "Smile—hold that please."

☆ ☆ ☆

REGARDING SUBSCRIPTIONS

From time to time we have inquiries from readers in reference to subscriptions which were sent to us through canvassers. We do not employ canvassers to solicit subscriptions for this magazine, but we do accept subscriptions from Subscrip-

tion Agencies. If your subscription is placed with an agency, obtain a receipt, showing not only the name of the agency and the date but also the name of the solicitor, so that reference can be made from our records. We earnestly suggest that all subscriptions be sent us direct, so that advantage can be taken of our combination offers without additional charge.

☆ ☆ ☆

A USE FOR A MIRROR.

When taking an interior recently I found that owing to the shape of the room it was impossible to include all I wanted, as I could not get the camera far enough away. The difficulty was got over by fixing a mirror (it was one of the ordinary swing kind to be found in most bedrooms) on a small table as close to the wall as possible, and photographing the image as seen in that. I had been told that the plan was not really practical on account of getting a double image in the mirror, but there are no signs of it in the negative. The mirror reverses the picture right for left, so that when films are used the print must be made with the back and not with the coated side in contact with the paper to bring the picture the right way round. When glass plates are being used, I suppose it would be necessary to expose through the glass, or else to print by means of the enlarging lantern.

☆ ☆ ☆

My two and one-quarter inch films are developed in a three and one-half inch tank. Having but enough de-

veloper for one filling of the tank and three films to develop, they were put in one after the other and each was perfectly developed. The third film was given three minutes extra time. Developer: Ansco twenty minute pyro. This method has been used for a number of films since and has yielded perfect negatives each time, though usually only two films are developed in one tank of solution. This is a saving of money and of time to dissolve the chemicals.

JAY BURTON.

☆ ☆ ☆

Blather—Blubbs is an original cuss.

Skite—Why so?

Blather—Well, you know I've had my picture taken with him en groupe three different times.

Skite—Yes?

Blather—And he never said a word about breaking the camera.—*Texas Coyote.*



Learn a Paying Profession

that assures you a good income and position for life. For 20 years we have successfully taught

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Photo-Engraving and Three-Color Work

Our graduates earn from \$20 to \$50 a week. We assist them to secure these positions. Learn how you can become successful. Terms easy—living inexpensive. Write for Catalogue—NOW.

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967 Wabash Avenue, Effingham, Illinois

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

RATES FOR DISPLAY ADVERTISING SENT ON APPLICATION

THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,

135 West 14th Street, New York.

PROFESSIONAL AND AMATEUR PHOTOGRAPHERS all over the United States are using the Woodworth Exposure Meter as it is the best that can be bought at any price, take no substitute, only 18 cts. at all dealers, or 20 cts. direct, postpaid. Woodworth Machine Co., Angola, Ind.

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SCHOOL OF MODERN PHOTOGRAPHY**
OPEN OCTOBER TO JUNE

Instructors: Paul Lewis Anderson, Max Weber

For information address **CLARENCE H. WHITE**
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GREATEST EVER!
WILLOUGHBY & A SQUARE DEAL
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Photographers Sell Post Cards from your negatives. Put them in the stores, there is money in it. **YOU HAVE THE NEGATIVES, WE WILL MAKE THE CARDS**

100 from 1 negative, \$ 2.00	from 5 to 10 negatives, \$ 3.25
300 from 1 negative, 4.20	from 5 to 10 negatives, 6.30
500 from 1 negative, 6.25	from 5 to 10 negatives, 8.00
1000 from 1 negative, 10.00	from 5 to 10 negatives, 12.50

Delivery from 3 to 5 days, return postage 10 cents per 100
Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens in cello, with case, will cover 5 x 7 plate wide open, \$18.00 post paid.

We take cameras, lenses, etc., in exchange.
Ask us before buying.

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Practical Instruction in Photography,
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Painting. ESTABLISHED 1880

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Our New No. 10 **BARGAIN LIST** which is now ready is better than ever. Contains some startling values in Cameras, Lenses and Photographic Supplies. Imported Ica and Butcher Cameras. Headquarters for Cyko Paper.

Write today for **FREE COPY**
NEW YORK CAMERA EXCHANGE
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QUICKEST and SAFEST

For accurate local work on a **DRY NEGATIVE**

1 Box and Directions, 30 cents

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Hurd's Lawn Finish is the finest type of the fashionable fabric papers. Its quality is the best; it is beautiful in appearance, and the writing surface is exceptionally pleasing.

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STYLES & CASH,
135 West Fourteenth Street,
New York.



Simply pull the trigger: the gun ignites the flash and operates the shutter SIMULTANEOUSLY

\$1.75 Quicker Than A Cat

Complete Is the IMP FLASHLITE GUN!

The IMP Gun overcomes the many troubles hitherto experienced in flashlight photography.

Every amateur, press photographer and professional needs this simple, dependable device.

Amateurs with a limited knowledge of photography can secure wonderful results with hand or tripod camera in any light from broad daylight to total darkness in flashlight photos of moving objects, groups, pets, etc.

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Your dealer can supply you promptly.

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Have an excellence peculiarly their own. The best results are only produced by the best methods and means—the best results in Photograph, Poster, and other mounting can only be attained by using the best mounting paste—

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(Excellent novel brush with each jar.)

At Dealers in Photo Supplies, Artists' Materials, and Stationery. A 3-oz. jar prepaid by mail for thirty cents, or circulars free, from

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WRENN'S BEST BLOTTING

HIGHLY ABSORBENT

CHEMICALLY PURE

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

Make it an Autographic—and Take it With You.

It matters not where you go, how you go, or why you go, the Autographic Kodak will more than pay its passage—it will leave you its debtor for the rest of your life. It gives you not only a pictorial record of your trip, but a written record as well, permitting you to note valuable bits of information below each negative at the time you take the picture. There is nothing more it *could* do—the record is complete.

The other day a friend of our's showed us his collection of pictures, taken on a trip through the Berkshires some years ago—four or five, he wasn't sure which. He had a number of good pictures, one of them a quaint little church near Pittsfield—at least, he *thought* it was Pittsfield—where somebody or other used to preach. And then one of two pictures—he couldn't be positive which one it was—marked the spot where Captain——, what was that fellow's name—was killed by the Indians. Before we got through he had shown us quite a few something-or-others, and, of course, the interest of such nondescript pictures was to a certain degree destroyed.

This may be an extreme case, but look over some of *your* pictures taken four years ago and the chances are that

the identity of a few of them, at least, will be muddled by time.

With an Autographic Kodak, such a condition of affairs is impossible. The point of the picture story is jotted down on the film at the time you are in a position to know all the facts. And once this first-hand information is written on the film, it is as permanent as the picture, itself. You can't forget—the Autographic record clinches each memory.



This service of the Autographic Kodak—its contribution to the after-fun of your pleasure trip—is only one of many that it performs. Think of the completeness of an Autographic Kodak record of the children, for example,—a veritable household history with the facts and dates below each picture. Look at it from a business point of view—its value to the contractor, the engineer, the surveyor, the farmer, the orchardist, is incalculable. The Autographic Kodak is a big thing, the biggest thing, photographically, in twenty years.

You wouldn't find the Autographic attachment on the Kodak were not its operation, simplicity itself. Just open the little door at the back of the Kodak, write what data you choose, expose to the light of the sky, and, upon development, you will find

(1)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

the record photographically imprinted below the negative it describes.

It may not be necessary for you to buy an Autographic Kodak in order to reap its full benefits—although the advance in price over the regular models is slight. *Your* Kodak may be brought up-to-date at small cost by the substitution of an Autographic back for the old-style back.

Your dealer has been hoping for some weeks to have an opportunity of showing you the Autographic Kodaks.



THE KODAK AMATEUR PRINTER.

The you-do-the-rest part is one of the most delightful phases of photography. It is a pleasure, of course, to take pictures but you are not getting all the fun, all the delight till you *make* them. And just as the Kodak makes the taking of good pictures by anyone a matter of course, so the Kodak plan has embraced all the necessary steps in the *making* of a picture and reduced them to their simplest, most efficient forms. The joys of the "other half" of photography may now be realized by anybody with little effort and small expense.

For developing, there is the Kodak

Film Tank which enables you to develop your films when you will, where you wish, and insures you the best possible negative always.

For printing, there is the Kodak Amateur Printer, a new thing—new of necessity embodying, as it does, the very latest ideas in photographic printing. In its simplicity, its convenience, and, most of all, in its efficiency, it is a fit companion for the Kodak Film Tank.

The Kodak Amateur Printer consists of a box with a removable top in which is located the printing glass. Inside the box are two electric lights—one, a small, red bulb which supplies the necessary illumination for the adjustment of negative and paper, the other, a powerful Mazda lamp which provides the printing light. At the side of the box is a window covered with orange fabric which serves as a dark-room lamp with the red bulb turned on or, with the Mazda lamp, a safe light for Velox developing.

A particular feature of the Kodak Amateur Printer is an automatic masking device. Thin metal strips which may be adjusted as desired mask the paper with perfect accuracy so that prints with white margins may be obtained from any film negatives from the vest pocket up to and including the 4x5 and post-card size. A hinged frame holds the negative and paper tightly together.

The exposure is entirely automatic. When the hinged cover holding the negative and paper is closed, the Mazda lamp is automatically turned on, when the catch is released the Mazda lamp is extinguished and the red bulb burns. This arrangement not only prevents wasted current but insures maximum speed in printing.

It is obvious that with the Kodak Amateur Printer duplicate prints may be made with absolute uniformity.

Mazda lamps of 60, 40, or 25 Watts may be used in the Kodak Amateur

If it isn't an Eastman, it isn't a Kodak.



The No. 1 Autographic KODAK, *Special*

Small enough to go in
your pocket—*conveniently*.

Good enough to do
any work that any hand
camera will do—*satisfac-*
torily.

SPEED. The Shutter has a speed of $1/300$ of a second and slower controllable speeds to one second—also has the time and bulb actions, *and is large enough to give the full benefit of the anastigmat lenses with which the camera is listed.*

QUALITY. All the way through the No. 1 Autographic Kodak *Special* has that mechanical precision, that nicety of adjustment and finish that gives the distinction of "class".

SIZE. The pictures are $2\frac{1}{4} \times 3\frac{1}{4}$ inches; the camera measures but $1\frac{3}{8} \times 3\frac{3}{8} \times 6\frac{3}{8}$ inches, in spite of the fact that its equipment provides for anastigmat lenses of the highest speed.

AUTOGRAPHIC. It is "autographic", of course. All the folding Kodaks now are. You can date and title the negative easily and permanently at the time you make the exposure.

SIMPLICITY. Effective as it is, the Kodak Idea, Simplicity, has not for one moment been lost sight of, there are no complications. The No. 1 Autographic Kodak, *Special*, has the refinements that appeal to the expert—to the beginner it offers no confusing technicalities.

THE PRICE.

No. 1 Autographic Kodak <i>Special</i> , with Zeiss-Kodak Anastigmat lens, <i>f</i> .6.3,	\$45.00
Do., with Cooke Kodak Anastigmat lens, <i>f</i> .6.3, - - - - -	36.00
Do., with Zeiss-Tessar, Series 1c lens, <i>f</i> .4.5, - - - - -	56.00

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\$3,000.00 In Cash Prizes

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All out-doors invites your Kodak.

*There are no game laws for those who
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Let the children Kodak.

Write it on the film—at the time.

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For the best new slogan, together with a picture illustrating same, we will pay \$500.00.

Ask for circular giving full details 1915 Kodak Advertising Competition. Sent by mail on request.

EASTMAN KODAK COMPANY,
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KODAK FILM TANK

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At home or camp, on train or ship board—anywhere—anytime, the Kodak Film Tank will give you the best results possible from each and every strip of exposed film.

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daylight all the way.*

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

At your dealer's.

THE PHOTOGRAPHIC TIMES PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed on June 30th, 1915, so as to be announced in the August Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

Second Prize, \$5.00

Third Prize, \$3.00

And three honorable mention awards of a year's subscription to
THE PHOTOGRAPHIC TIMES.

In addition to which those prints which deserve it, will be Highly Commended.

CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. This competition will be for "Novices," and the subject is open.

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

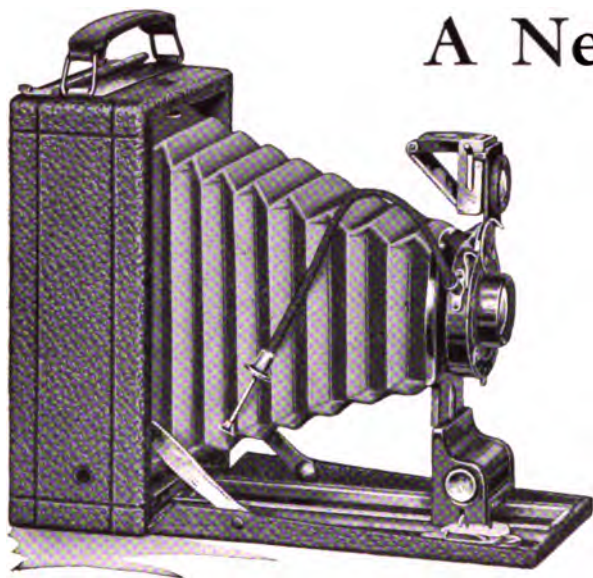
NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received by us not later than June 30th.



A New Camera
combining
anastigmat
efficiency
with low cost
and great
simplicity

Premoette Sr.

A camera that marks a distinct advance in amateur photography. A camera that is remarkably easy to load and operate, that is simple in every detail, that is equipped with a *genuine anastigmat lens*, and yet is as low in price as the average camera for the same size pictures, with only an ordinary R. R. lens.

Every experienced amateur knows the advantage of the anastigmat lens, but the relatively high prices which have hitherto prevailed, have prevented him from owning one, in the majority of cases. The new Kodak Anastigmat lens, *f*.7.7, fitted to this camera, is equal in flatness of field, depth and definition, to the highest priced anastigmat made, and has a greater speed than any R. R. lens. And it is furnished at such a price that even a beginner can now well afford to start with an anastigmat equipment.

Prices—Premoette Sr. with Kodak Ball Bearing Shutter and Kodak Anastigmat lens, *f*.7.7, for $2\frac{1}{2} \times 4\frac{1}{4}$ pictures, \$15.00. Ditto, for $3\frac{1}{4} \times 5\frac{1}{2}$ (post card) pictures, \$17.50.



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No. 5.	Size of leaf, 11×14	"	-	"	2.80

When ordered to be sent by mail, send 15c. extra for postage for any size up to 8×10 , and 20c. for the two largest sizes

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The Photographic Times Publishing Association, 135 W. 14th Street, New York

25 CENTS

WILL BRING YOU THE
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That means that you will get **13 copies** of a photographic journal that is written from the point of view of the beginner in photography.

You will find more features in the *Amateur Weekly* than in any other magazine you can buy for \$1.50 per year. **Cash prize competitions are offered every week**, articles that you can easily understand, and which will tell you how you can avoid wasting plates and paper, a Print Exchange, many illustrations accompanied by full data, *Ye Olde Curiosity Shoppe*, and many other features.

When you send a print in for competition and want to know how it compares with other prints sent in, we send you a rating card, judging the print for Composition Pictorial Quality, etc., so that you can find out where your faults lie and improve them. With the new year other features are to be inaugurated of like value to the amateur who wants to improve his photographic work.

We send no sample copies, because the value of a magazine cannot be judged from one copy. 25 cents is a small sum and invested in a three months' trial subscription to the *Amateur* you will find it return a hundredfold. **Send it to-day.**

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The
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Weekly**

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YOU owe it to yourself and to your camera to go to your dealer and ask to see **Goerz Lenses** and **Goerz Cameras**.

Quality is first with **Goerz**.

Twenty-five years of experience are behind **Goerz Goods**. The dealer will show them to you and point out their quality and efficiency, or write to

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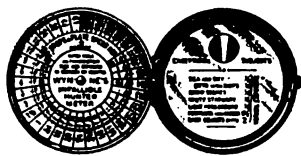


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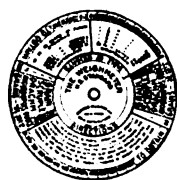


NEW STYLE WYNNE INFALLIBLE EXPOSURE METER

The Wynne Hunter Meter

This new style meter has been designed to attain the maximum of simplicity, convenience and efficiency, with a minimum diameter and thickness of case, the case being only one-quarter of an inch in thickness. It is beautifully made of the best solid nickel and opens like a watch. On the right side of the open case is the Actinometer with standard tints and sensitive paper, on the left hand side of the case the two scales for calculating the exposures. The top dial is interchangeable so that scales, according to either F., U. S., or specially divided scales for autochrome exposures, can be instantly substituted for one another. When ordering please specify which style of scale is desired.

Price, \$2.75, postpaid. Top Scale, only for Autochrome, 35 cents extra



The WEIGHMETER, The Latest Photographic Discovery!

Indispensable to Photographers, Chemists, Physicians, or anyone engaged in weighing chemicals

The Weighmeter instantly indicates by one turn of the dial exactly what weights are to be used on the scale for any given formula. Saves time, trouble, annoyance, and opportunities for errors in making the usual computations. Beautifully printed in two colors on ivory celluloid, and just the right size to fit the vest pocket.

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Send for new postpaid Mail-order cash catalogue. Also new Ross Lens and Camera catalogue

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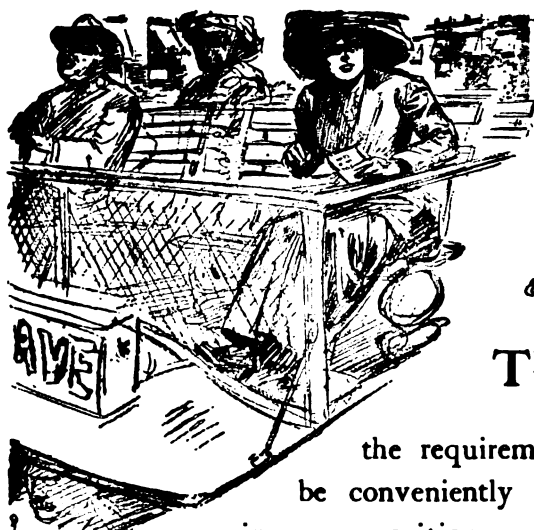
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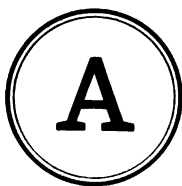
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Volume XLVII

JULY, 1915

No. 7

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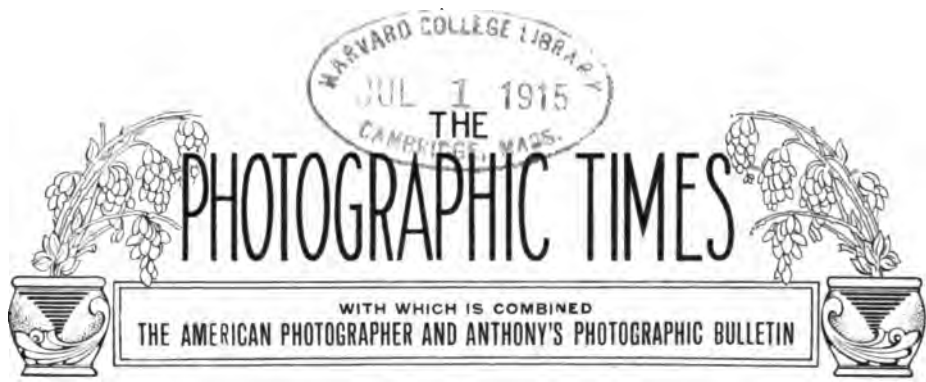
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NEW ENGLAND DAISIES

Gertrude E. Shaw



VOLUME XLVII

JULY, 1915

NUMBER 7

BIRD-NESTING WITH A CAMERA

With Six Illustrations.

BY FRANCIS M. WESTON, JR.

IT IS not my intention to preach a sermon against the practice of robbing birds' nests—that can well be left to the Audubon Society—but I am going to speak about a branch of photography which is not practiced by many, but which is a source of great pleasure to those few who are following it up.

When we were passing through the "collecting" stage of our development and were accumulating stamps, cigar bands, etc., the friend who had a series of bird eggs always aroused our envy; and, forbidden or not, there was no greater joy than to tramp the fields in the effort to acquire a series of our own. Now it is just as much fun to hunt birds' nests after one is grown up as it was a few years earlier, and the result of such a hunt with a camera as a companion is far more pleasing than the prettiest set of empty eggshells I ever saw.

Expensive equipment? Not a bit of it. You can get good pictures with a box camera and a portrait attachment.

Of course the handiest instrument is one with a focusing screen; and a long bellows draw is also a great advantage, but high grade shutters and fast lenses are not needed. The only necessities are a device for pointing the camera downward at an angle—and a stock of patience. The first of these requirements is satisfied by a ball and socket clamp or better by a tilting tripod top. The last should be part of the regular equipment of every photographer.

The camera which I prefer for this work is a 4x5 with a reasonably long bellows draw, and supplemented by a portrait attachment.

The picture of the nest of the Clapper Rail here shown gives a good idea of how a ground nest should be taken. The nest was in a bunch of tall grass on the edge of a marsh, and was completely concealed. A piece of string and a couple of long sticks held the grass aside, and an exposure of five seconds with a small stop in the late afternoon gave good results.

*Vireo's Nest**Nest and Eggs of Mourning Dove*

The Song Sparrow's nest is a good example of what should *not* be done. This nest was in the top of a low bush, and the tripod was simply straddled over it, the camera tilted downward, and the exposure made. In photographing a deep nest, do not try to show all the eggs unless you are taking the picture simply as a record. The result is much more pleasing if the camera is a bit to one side instead of directly over the nest, even if only the tops or one or two eggs is all that can be seen within.

In clearing away the leaves and branches which surround a nest and hide it from view, be very sparing in the use of the knife as the future safety of the whole bird family depends upon the perfect concealment provided for by the wise builders. A piece of black thread used to tie back the branches will generally do the trick, and will not show.

Some people have the habit, when a nest is in a difficult position, of removing the whole branch containing the nest to a convenient place. There are two very good reasons why we should not do this; first, however carefully we may try to restore the nest to its original position by splicing the branch, the parent birds probably will not return to it; and second, because it is not sportsmanlike. Be a sport! Don't alter conditions to suit your convenience, but show that you are resourceful enough to accomplish your purpose in spite of conditions. The Dove's nest shown herewith gave me and a friend half an hour's hard work. It was in a fallen pine just a few inches too high for the tripod, and there was no solid support above it to which we could attach the camera. We finally had to brace the tripod legs against different branches, and he held two of them in place while I balanced on



Nest and Eggs of Clapper Rail



Nest and Eggs of Least Bittern.

another branch, focused the camera, and made the exposure. It was so late in the afternoon before we were ready that a 30 second exposure was necessary with F32 on a Hammer Red Label plate.

In working about a nest, do not touch the nest if it is possible to avoid doing so; and never handle the eggs. Many species of birds will not return to a nest that has been touched or disturbed in any way.

For the best results, the light on a nest should never be contrasty—direct sunlight is very objectionable. Unless the nest is naturally shaded or the day is cloudy, put up something which will cast a broad shadow over the nest and its immediate surroundings. On the other hand some nests are so deeply shaded that a little more light is an advantage—I refer to nests that are over-arched and have the opening on the side. The outside of a nest of this type may be well lighted while the interior is so dark that little or nothing can be seen. Under such conditions a

small hand mirror will save the day. Set up the camera, cut down to a small enough stop so that an exposure of at least several seconds will be necessary, and during the last few seconds of exposure reflect a beam of light from the mirror into the nest, keeping the beam moving about so that there will be no sharp shadows.

Coming to the subject of length of exposure, we find ourselves in trouble. If we are using a meter, well and good; but if an exposure card or table is all that we have to which to pin our faith, success is none to certain just at first. In the open fields, a nest in the shade can be given the time as indicated on the card for portraits in the shade. In the woods, however, where the light is apt to be feeble, we may have to increase our exposure considerably. Generally the heading of "Dark Objects Near the Camera" will give us time enough. In any case, remember that a long bellows draw is being used and increase the exposure accordingly. If the dis-



Nest and Eggs of Song Sparrow

tance of the lens from the plate is one and one-half times the focal length of the lens, double the calculated exposure; if twice the focal distance, multiply the time by four.

It will be generally necessary to use a very small stop—never larger than F:32 (U.S.64)—on account of the

nearness of the camera to the object and the constant difficulty of getting all parts of the object and the consequent difficulty of getting all parts of the object in sharp focus. At such a small aperture, an R.R. lens will give just as good definition as the best anastigmat, and the more expensive lens is not needed. It is important to use orthochromatic plates or films in photographing colored or spotted eggs, and the use of a light ray filter is also a great advantage.

Of course the enthusiastic amateur will not long be content with photographing only the nests within easy reach, but will aspire. Let him cultivate his ingenuity and his hardihood and there will be scarcely a nest that he cannot set his camera over. A little extra in the way of equipment will be needed. The tripod will have to be abandoned, and in its place a universal clamp of some kind be used. A pair of climbing irons and a ball



HUMMING BIRD'S NEST

of strong cord by which to haul the camera up the tree will be found indispensable.

But why go out of the wide field which is within reach of the ordinary tripod? We can find nests everywhere—along the field edges, in the meadows, in the marshes, in the woods, and even in our own gardens and about our barns. A photographer with a love for the great out-of-doors can spend many a happy day in the springtime searching out and photographing the nests of our familiar

field birds, and has no call to cast his eyes longingly to the hawk's nest in the top of the oak or to the eagle's nest on the sheer side of the cliff.

The pictures which I show here may not be artistic in any sense of the word, but they gave my friend and me great pleasure in the taking. I can only hope that the results of my efforts may be the cause of your trying this delightful phase of picture making. May your pleasure in it be as great as mine.

SUMMER LANDSCAPES

With Four Illustrations.

BY WILLIAM S. DAVIS.

WITH summer at hand and vacations in sight the majority of amateurs take up their photography with increased interest, so a few suggestions upon the subject of this article may prove timely, particularly to occasional workers, since many points which make for success are apt to be overlooked after the camera has been laid aside for some time; among them the fact that an instrument under such circumstances should be well overhauled before using, every portion inside and out dusted, lens carefully cleaned, shutter tried at different speeds to see that it is working properly, and bellows or other parts examined for possible leaks.

If not already a part of the outfit, a convenient tripod and good ray-filter should be added, as both are essential in many instances for serious

landscape work. The latter used in conjunction with orthochromatic, or other color-sensitive plates or films means the possession of greatly increased power to give a more satisfactory translation in monochromatic tones of Nature's color harmonies.

Knowing the outfit is in order and a supply of fresh material provided, one may then give their attention to the pleasure of searching for attractive compositions, and surely they are not difficult to find! The willow fringed bank of some winding stream, fields dotted thick with daisies, woodland vistas, windswept uplands where the clouds go sailing past, and sunny pastures with grazing flocks and herds, are but a few of the subjects which immediately come to mind as possible material. While it is undoubtedly true a wider range of subjects are likely to be found in country



When Daisies Deck the Fields



In Leafy Woods

districts the city amateur may, nevertheless, find many excellent landscape subjects in any of the larger parks, which by judicious selection will furnish compositions free from any suggestion of artificial arrangement or over cultivation, consequently such nature lovers may well improve brief holidays to investigate the pictorial possibilities of nearby localities, rather than confine their activities to occasional outings of longer duration in more distant fields.

Although the actinic power of light is greater during the summer than at any other time of the year, the fact remains that a large number of snapshots are under-timed even by workers of some experience, due to the reason that sufficient allowance is not made for the strong contrasts so often

present. On a bright day the intense sunshine produces a very long scale of tones between the highest lights and deep shadows in, or under, dense foliage, and if only just enough exposure is given to bring out some shadow detail by full development of the negative it is impossible to secure this before the higher lights of the scene are turned into an opaque, unprintable, mass. The reason for this becomes clearer if one stops to consider that the longest possible scale of tones, i.e., range of contrast, in any printing process available is many times *less* than what actually exists in nature, so in picture making it is necessary to compress these tones within the limitation of practical possibilities, only taking care in doing so to try and make each tone in the photograph occupy the same



"BENEATH THE SHADE OF WILLOWS GREY"

position in its relation to others as is the case in nature, since by attention to the preservation of relative values in our compressed scale we can suggest the effect presented to the eyes by the subject itself. Now this control over the tone scale of a photograph is to a great degree a matter of relation between exposure and development. Using any developer of given strength as a basis, the contrasts in a negative may be softened by increasing the exposure and decreasing time of development, while the opposite effect is produced by less exposure and longer development. From this it is obvious that when dealing with a subject containing great contrast one should not simply give exposure enough to impress some shadow detail upon the sensitive film, but rather

allow sufficient time so the shadow tones will appear quickly, thus allowing development to be stopped when the high-lights are just strong enough to print correctly.

In addition to the translation of tonal contrast, however, there is another matter which cannot be passed by—viz. showing the various colors in a way to suggest their true relative intensity, for color and tone values are so interwoven in nature that neither can be neglected without detriment to the other. As ordinary plates not only fail to "see" colors correctly, but even reproduce certain tints in inverse ratio to their visual brilliancy, the necessity of overcoming this defect is evident, especially so in certain cases, as for example some sunshine effects which depend upon

careful preservation of relative brightness of light tones in the foreground with those in the sky.

The orthochromatic plates or films of any good maker will render yellows, light pinks and warm greens better than the plain grades, even without a screen, but to hold back the highly actinic blues and violets to their proper tones a ray-filter is also essential. For complete color correction one which requires five to six times increase in exposure is used, but for the majority of subjects a lighter filter—say three to four times—will answer very well, although the deeper one is preferable when strong contrasts are present, as a delicate cloudy sky back of dark foliage.

When for any reason it is not practical to use a filter because of the additional exposure required, excellent results may be secured with any of the several brands of "Anti-screen" or "Self-screen" ortho. plates now on the market, as they give about the same color-correction usually obtained with a three times screen, yet are practically the same speed as other fast plates. When using such plates I have sometimes employed a light ray-filter also to obtain greater correction than given by the emulsion alone, with results similar to what would have been produced upon regular ortho. plates with a deeper filter.

More pleasing massing of lights and shadows are seen during the early morning and late afternoon hours, as the sun's rays in summer are too nearly vertical during the middle of the day to show good effects, especially upon foliage in the open, which if photographed under such conditions

usually looks as though dusted with white chalk. Then too, the atmospheric quality is generally better when the sun is lower, and on misty mornings, or toward sunset when the air is filled with a golden haze, very beautiful effects are to be seen, particularly against the light, but to avoid fogging the plate the lens should be shielded from the direct rays of the sun by some simple shade or hood.

Some diffusion of definition, especially through the middle-distance and beyond, is as a rule most desirable in landscape compositions, because the charm of the scene largely depends upon broad masses of tone and color, and the impression we receive is conveyed by the larger forms rather than well defined images of minute ones, like single leaves or blades of grass, which are not apt to impress one as separate units unless very near the eye. However, the small details do in the aggregate make up the characteristic "texture" of the different portions of a view, the clearness of which depends upon the lighting and state of the atmosphere, so it is sometimes quite a problem how to strike a happy medium as to the quality of a definition obtained in the photograph. Some experienced workers, more especially when enlarging from small negatives, depend to a considerable extent upon obtaining the amount of diffusion desired in the finished picture by the selection and manipulation of the printing process, but while much can be accomplished in this way to regulate definition it is better when possible to get as much of the desired quality in the negative to start with, and in particular produce whatever

differentiation of definition that may be wanted between foreground and distance, for while the general degree of diffusion can be increased in printing it must not be forgotten that this is uniform over the entire picture and so does not help to separate one plane from another. On this account if no other visual focusing upon the ground glass is better than relying upon a scale and pointer, as the effect of moving the lens and use of different sizes stops can be observed. If the camera does not permit of visual examinations of the image, the best plan is to set the lens at about the twenty-five feet mark on the scale for an average

fairly open landscape, and work with the lens at F.8 or 11; by so doing the distance will be more softly defined and the nearer parts, which are presumably of most importance, brought out with greater prominence.

When some softness of focus is desired throughout it can be secured without actual blurring in any one part by stopping the lens well down, say F.32, and then racking out beyond the point of sharp focus for the nearest objects, the principle being that a small stop gives the lens sufficient depth of focus to permit of doing this without unpleasant blurring of the distance, unless altogether overdone.



JUNE AFTERNOON

WHAT TO PHOTOGRAPH ON A TRIP

BY BAYARD BREESE SNOWDEN

THE average American does not envy the millionaire his palaces and his yachts, nor the wide swath he can cut in social circles. What he does envy him is his privilege—his supposed privilege, that is—of living as he chooses,—of going where he will and seeing what he likes. Travel is the American hobby. We are always eager for new scenes.

The amateur photographer is no exception to the rule. Travel for him means even more than for others—the opportunity to get variety and interest into his pictures. Whether he plans a trip to the city or a trip to the mountains or the shore, he thinks of the pictures he will get and the good time he will have getting them.

It all looks easy. You think of the holiday freedom to tramp about and set up your camera amid fresh scenes, puffing the while on a favorite pipe and pausing now and then to bid a cheery "Good morning" to the strangers who stop to watch you. Unfortunately, however, photography away from home is not so easy as it looks in prospect. When you have arrived at your destination and are ready for the jaunt about town, there comes the inevitable thought, "Well, here I am; now how about it? What shall I take?" You scratch your head. It is a troublesome thought. There is so much to take—what shall you select? You don't want to waste plates and films on unimportant subjects; you don't want to miss getting

the pictures that it will be interesting to show. In the end you wander about selecting here and there, with considerable doubt as to whether there is wisdom in your choice.

After one or two experiences of this sort the amateur begins to ask himself whether there is no method of procedure which will insure good results, ridding him at the same time of that sense of uncertainty which is the fly in his ointment of bliss.

It would be absurd to say that any formula, any method, can guarantee good results. Yet there is an attitude towards photography away from home which will, if thoughtfully held to, point the way to a larger measure of success. The keyword of this attitude is definiteness—definiteness in regard to the pictures you ought or expect to get. Success in picture-making is a good deal like success in reporting, and every reporter knows that there is very little news to be had by aimless walking about the streets and waiting for something to turn up. The successful reporter is the man who studies the sources of news and is fully aware of what to look for. Even when he gets an unlooked-for "scoop" it is generally the result of his careful combing of the territory to which he has been assigned.

Let us suppose that the amateur is going to visit a certain town. How shall he proceed to get the most, from a picture-making standpoint, out of his trip?

First of all, he ought to clear up his ideas as to the different kinds of photographs. By this I mean that he ought to try to classify pictures somewhat as follows: (1) those that convey information—that is, records; (2) those that are interesting chiefly from an artistic standpoint; and (3) those that combine the informational and the artistic, thus possessing a two-fold interest. These three divisions are not really absolute, and there is sometimes difficulty in grouping pictures in the manner indicated; but the effect to follow out some such classification helps to clarify the vision.

How essential it is to have one's vision clarified by careful forethought a simple example will suggest. The country amateur contemplates a visit to the city. He lets his mind dwell on the city crowd, and looks forward with delight to photographing the stream of people pouring down Fifth avenue or Broadway. The poetic or imaginative side of the prospective view seizes hold upon him. Amid his rural solitude he has been meditating on the wonders of the city—its busy hum of life, its throbbing heart, etc. He is going to photograph that busy hum, going to get some impressionistic studies of the city's many moods. Thus captivated with anticipation, he boards his train and rolls onward to the goal of his desires. But when he actually reaches Broadway and looks into the finder the scene appears commonplace enough. Why? he asks himself. Why should expectation be so attractive, realization so flat and uninteresting? "Whither is fled the visionary gleam?"

Let us not be too hasty with our

answer. Neither let him be too soon cast down. If it were as easy as he expected to secure "impressionistic studies of the city's many moods" there would be a good many more city views published in the photographic magazines, for there are said to be three quarters of a million amateurs in New Yory City alone. However, it may be pointed out that the real trouble with our friend from the country, as with the rest of us most of the time, is a tendency to think large, with too much vagueness, when it comes to pictorial possibilities. What is needed is to think in terms of actual compositions. That serves to get rid of the vagueness, for it puts us face to face with the real thing, the thing we have to photograph. If our amateur had thought more in terms of actual compositions he would not have been so surprised at finding Broadway so lacking in pictorial values when he gazed into his finder. If he had thought out in advance a half dozen city compositions, considering the treatment necessary to transform them from ordinary records into pictures with artistic appeal, then the glance into his finder on Broadway would probably have shown him only what he had expected to see, and, instead of being "flabbergasted" by the unpoetic aspect of things, he would be happily occupied in carrying out the *definite* pictorial plans already formed.

There is a sort of wild waywardness about us all. We pick up a hand camera and go out looking for blood. We do not know what we want but expect to know it when we see it. Three miles from my home is the summit of

Mount Tom, Massachusetts. The mountain house thereon is visited by crowds of people every day throughout the summer, large numbers carrying hand cameras with which to photograph the surrounding country. I have stood and watched and listened. A photographic dealer could get rich on the sale of the films and plates which these people waste. Most of them have probably started out with happy thoughts of the beautiful views they will get—happy thoughts, but vague and indefinite. Not one in a hundred seems to have armed himself with clear thinking or investigation concerning aerial and cloud photography. So long as they can get a good view of the country round about, it does not seem to dawn upon them that one day can be better than another for photographing from the top of a mountain.

The point of these examples is here: The amateur contemplating the pleasures of camera work away from home should examine his expectations, considering in advance the factors that must be handled to produce something more than a straight record. He will then be less likely to expect the impossible, and more likely to make the most out of what he finds.

The habit of classifying pictures (and hence subjects) as has been suggested will be helpful, but definiteness in one's pictorial plans may be increased by carrying the process of analysis a step further.

Let us suppose that the amateur is not so much concerned with obtaining pictorial triumphs as with securing photographs which will make up

an interesting record of what he has seen and enjoyed.

To accomplish his aim he should make sure that he sees what for his particular purposes is worth seeing. Obviously, you can't photograph what you don't see, and you can't see what you don't look for. Ergo, consider beforehand the things to look for.

People look for different things in a locality, according to their tastes. The commercial traveler looks for the good hotels and the stores carrying his line of goods, and doesn't care much about anything else. The minister looks for the churches, libraries, etc. The workman looks for the stores and industries, and considers the possibilities of employment and the conditions of labor. The hobo (according to the movies) looks for the saloons and a hand-out. Each, according to his tastes and his interests, notes the features that are of especial interest to himself, and so it often happens that two persons of different types find on comparing notes about some town they have both visited that there are a lot of important things which one observed and the other didn't. What the amateur photographer needs to avoid is letting his attention be wholly absorbed by the things which his own occupation or interests point out. He should strive instead to take the point of view of the trained sightseer, who tends to combine in his attitude the points of view of all who find anything of interest in the town.

In "sizing up" a locality questions like the following may profitably be considered: Is there anything of a historical connection in this town worth

photographing? Has the town any architectural features that are deserving of record? What views are there that will suggest the economic importance of the community? Wherein is the life of the people different from what is to be noted elsewhere? Can I show this difference by pictures? Is the topography peculiar? Are there any geological records to get? What carefully selected bits here and there will best help others to see in my pictures what sort of town it is? And so on. Other questions of a similar character may be worked out.

When the amateur has pondered questions like these he will be in a fair way to uncover the subject matter. In addition, he will have the advantage which comes from thinking of a subject beforehand and thus being able to handle it with some attention to details.

It is easy to ridicule the kind of catechism I have suggested. But the questions will certainly help the amateur to assume the attitude of the sightseeing spectator, intent upon catching the fundamental differences. When I go to a strange town or city I like to shut one eye, as it were, look the place over, and then figure out what pictures I should take if it were a town in South America and I wanted to give an illustrated lecture upon it

on reaching home. Of course it is possible to carry the thing too far, yet such an attitude does reveal many points of interest that would otherwise pass unnoticed.

If I were planning to start tomorrow with my camera for an unfamiliar region I should not only ask myself a list of questions like the foregoing, but I should turn to all the books of reference available about the region to be visited. I should consider it time well spent, for though the reading might give no direct suggestions for pictures it would establish a point of contact that might lead to pictures when I reached the scene of operation.

Nor is that all. I would also look over a note-book I have kept for now a number of years, in which are to be found some hundreds of suggestions for different kinds of pictures. In this note-book I have all sorts of lists—lists of compositions to be worked out in the city, at the seashore, in agricultural regions, in the mountains, along rivers, etc. Many of these subjects will never be worked out, but what of that? I have good fun picking them over, making additions, and culling here and there, and in mental exercise in analysis helps me to recognize a good subject when I see it.



PRACTICAL HINTS FOR SEASIDE PHOTOGRAPHY

With Two Illustrations.

BY FELIX J. KOCH

TIME immorial the sea has appealed to lovers of the beautiful,—time immemorial ‘marines’ have formed a distinct class among pictures of civilized nations and to-day, rare, indeed, the photographer who can resist taking pictures of the sea on each and every opportunity that may present!

The cry of the little ones in the opera of the *Children's Crusade*:

“The sea! The sea!”

finds its echo in the instinctive seizing of the camera by the photographer and ‘snapping’ the sea in every phase, or mood, it may choose to present!

Back at home, in dark-room or studio, the pictures resulting,—even where neither over- nor under-exposed, or otherwise with technical flaw, serve to present an array so hopelessly inartistic that it seems patent that a few helpful hints will stand the ‘Seaside Photographer’ in good stead.

To begin with, the matter of the sea itself:—Foolish as it may seem to the photographer himself even, once the picture has been developed and printed, for his inspection,—ninety and nine photographers out of each hundred insist on taking pictures looking squarely out on the empty sea! The lovely blue ocean, the cloudless sky, the ripple of the wavelets on the crests, are so charming,—you forget that, in pictures, these resolve to just a half-

picture of water, a half-picture of sky,—and no more. Absolutely the most inane sort of picture,—and yet, were they to be made to confess to it, hardly an amateur but takes such.

Now as to the suggestion for relieving the sea-scape:—

No matter whether aboard a liner, —out on some small sail,—on shore,—or on a dock, you are going to be *on* something, beside water, when you take your picture of the sea. The one exception, perhaps, is when you are out bathing in old ocean and then you won't be so far from shore but what you can include a bit of coast in your picture. Wherefor, every time you wish a picture of the sea, make a point of including a bit of your *terra firma* in the picture. You will find it detracts absolutely nothing,—for, big as is the ocean, the water is everywhere the same,—and the fraction of water area it excludes is made up, many times over and over, by the charm that is added by the dry land, deck or dock.

On the other hand, water always adds infinity to the charm of a picture. Therefore, reversing the rule, whenever you've a picture to take and you're down near the sea, try your best to bring in a bit of old ocean! Even if you must bribe your subjects to get them to come down to the beach, this is worth while.

Lovely as are these joint seascapes and landscapes, active as the sea may



A RIDE ON THE BEACH DONKEY

be in itself, even the water will stand improvement, in the photograph, by a bit of life. For example, a view across a given fiord will make a splendid photograph,—but if you've the time to wait till a gull wings her flight or until a seal comes to shore, or, in default of these, can induce some fisherman to drag his boat or nets to the scene, you will find your picture infinitely better.

Trite though the rule may seem, seaside folk should be induced to come down to the sea when you would take their pictures. Many and many is the traveller, motoring through some simple fisher-village, who sees this picturesque fish-wife or that at her door,—who stops, instanter, to 'snap' her. He gets a picture, of course;—but that picture would be improved many fold did he induce Madam, even

at the cost of a shilling or so, to come along, over the crest, to the sea, and get into the picture.

Sea photography has its charm, of course, and this very charm, as with most things delightful, makes one grow careless of expense. Developing, prints, time for this work,—those are the things of the future. And the future,—Mananâ,—may take of themselves. But, without passing from the rank of amateur into professional, more than one lover of photography has found a way to make the sport pay for itself,—and in this way.

Hardly a picture but what some fisherboy on the strand, some passerby on the beach, some folk in a boat, some persons perhaps out for a swim,—will help materially. Deliberately ask them if they 'don't care to get into a picture,' since later they may order



THE BEACH BATHING WAGONS

copies if they choose, and they will represent the idea as the scheme of some professional beach photographer. Take your picture, as you would, though; or, rather, make ready to take it,—then, levelling the instrument, cry at these handy passers:

• “Wait! Stop just a minute there. . . . I want to get you in the picture!” and,—most the human race being obliging,—they will stop; helping the negative, as has been said. Somehow or other, though, curiosity to ‘see oneself as others see us’ is inherent in the average woman or man, and so, as you walk away, perhaps with a hurried, “Much obliged!” you’ll be very, very apt, indeed, to find your victim dogging you,—to ask, “Would it be possible to get a copy of the picture?” Of course it would, at cost,—or rather,

“less than he could take it for!” That’s to say, the photographer figures cost of negative,—say $7\frac{1}{2}c$; developing,—less than $1c$.;—that’s $8\frac{1}{2}c$.;—the print, $5c$.;—that’s $13\frac{1}{2}c$.;—and allows $7\frac{1}{2}c$. for the labor of carrying the camera about with him, providing the film, and so being ready for instant work, so to speak. So he answers:—

“I’ll be glad to send you a nicely mounted copy for a quarter, if you care to let me have your card!”

Naturally, the other is delighted,—and the quarter, usually paid in advance, pays for the photographer’s own negative, developing and the print he makes for himself, as well as the mounted print sent his patron. Not that this takes him out of the ranks of amateurs, at that;—it simply means

that the game is paying for itself; that the sport is self-sustaining. Viewed in the light of the dozens of pictures one is apt to take in a season beside the sea, it is indeed valuable to find means for paying for the neat bill that will result.

You, who indulge in seaside photography, will, of course, be tempted again and again, to snapshot the children,—or be asked by fond mothers, whose acquaintance you've made, to take pictures of their young hopefuls. Again there should be borne in mind the rule, too often forgotten, that

children are children and do not, as a rule, stand erect in the surf, when at play in the sea, as most folk have them do when getting their pictures. Once you have taken the first enthusiasm out of the jaunt and come down to the hard facts of seaside photography you'll find that children, like adults, should be told not to heed you,—“you're not quite ready to get the picture,—something's gone amiss with the kodak,”—and then, when in their most natural poses, you snap them,—to their subsequent infinite delight, as well as your own!

OPENINGS FOR THE FREE LANCE CINEMATOGRAPHER

BY ERNEST A. DENCH.

IF I had been asked, years ago, if there existed good openings in the motion picture field for the free lance cinematographer, I should have emphatically replied in the negative. In those days it was absolutely impossible for an outsider to place his negatives or even attempt their marketing himself.

But times have changed, and to-day the open market is almost here. For another thing, the business has grown out of the childhood stage, and this has made it possible for the free lance to work without any fears of fondest hopes being shattered.

Reduced to a few words, the one purpose of this article is to suggest just those profitable paths open for your free exploitation.

To begin with, there are the comedy and demands photo-plays. They demand all the energy and ability available. The curse of the industry is over-production of commonplace material, so the photographer in a small way would be well advised to confine himself to the local field until he feels confident that his product can compete with that turned out by the standard producers. In several towns in different parts of the country, local film producing concerns have sprung up. They specialize in photo-plays dealing with phases of life peculiar to their territory and take the scenes on the natural settings. There is unusual interest attached to pictures with a strong local appeal, especially when enacted by a cast of players well known to the

inhabitants. Exhibitors are not slow to realize this fact, so such plays, when good in other respects, are booked freely by the motion picture theaters in the home town and surroundings places.

The one big outlay is in erecting and maintaining an artificial light studio, as the interiors have to be put on in there and work can be done when weather conditions are not conducive to good results outside. But anyone deciding to take up the craft seriously can lessen expenses all round by adopting the side lines that follow. First, there is the photo-play acting school. In all towns there are aspirants who require a course of training, so not only could you extract a fee, but obtain their services free until proficient.

Again, if an artificial light studio is not included in your schedule, then it is quite likely that you could hire one within easy distance for a nominal rental.

Manufacturers and merchants no longer confine their advertising to the press and literature. They appeal to the eye. This they do with the help of motion pictures. There are firms of national repute who have had a film taken of their manufacturing plant, showing the ideal conditions under which their products are made and so forth. Others have preferred to tell a story either in lighter or serious vein, according to which suits the best, to bring out the selling points of their goods.

There must be firms in your neighborhood who have never tackled this new advertising medium, and would be glad to do so if approached in a

convincing manner, and give you the producing assignment.

Every important newspaper finds that it pays to have a correspondent in every town, but the motion picture equivalent is not placed in such a fortunate position. As yet motion picture photographers are not as plentiful as the traditional roses that bloom in the dear old summertime.

The several animated newspapers are always glad to consider any good stuff not covered by their staff men. It frequently happens that the man on the spot is able to secure unique material of the utmost topical value in all states from Maine to California, and even in foreign countries.

You can be reasonably certain of getting your out of pocket expenses back with a profit in the bargain in the event of a rejection, for the operator so situated gets on the track of the local movie exhibitors in the interim and hires copies out to the live ones.

Another field not yet fully developed and offering opportunities in abundance are educational. These cover such subjects as science, geography, history and natural history. The American producers do not make a specialty of them and rely chiefly on the efforts of free lances to supply their needs. There may be unusual industrial or historical buildings in your vicinity which would interest movie fans. Or you may unearth some scientist or naturalist who would be glad to co-operate with you. If you aspire to travel, then approach likely manufacturers beforehand and discover whether the territory you propose covering would interest them. I hap-

pen to know of cases where a film producing concern has financed a free lance when they had confidence in him supplying the goods.

There is money—good money—in all of these undertakings for the ambitious and practical man. “Come in now, before the crowd,” should be your slogan.

USING THE TRIPOD

Illustrated.

BY CHAS. I. REID.

TO many photographers the tripod is a three-legged nuisance that persists in tipping over at the wrong moment and which cannot be made to tilt far enough at the right moment. Most of the troubles met in the use of the tripod are due to the high center of gravity, caused by the comparatively heavy weight of the camera. When one attempts to use the ordinary method of tilting the camera either up or down it is necessary to lower one section and bring the other legs close together. This method does not allow of tilting the camera very far either way, and always results in a very unstable support that takes delight in upsetting on the slightest provocation.

The accompanying photograph shows a method of tilting than can be used with great success in tilting the camera either up or down. The camera is placed on the tripod and turned so one section is in the rear, and this section is then brought forward between the two other sections as shown in the illustration. This allows of the extreme amount of tilting and at the same time preserves the balance of the outfit. If it is desired to tilt the camera upward, as in the case of high buildings, the shortened leg is brought to the rear of the

camera. The extreme tilt possible by this method enables one to secure many pictures that would otherwise be impossible without a special attachment, and in the case of the writer has prevented many more or less damaging accidents.



SUMMER AND THE HAND CAMERA

With Three Illustrations.

BY WILLIAM LUDLUM, JR

SUMMER is the time of the year when the countless numbers of the Camera Brigade charge the seashore and mountain resorts; when almost every man, woman and child carries a "little black box" in the hand ready for instant execution. The army of camera users at this time of the year is as numberless as the sands of the sea and reaches out to the uttermost parts of the earth wherever the foot of man finds a resting place. This same "little black box" has revolutionized the business of travel; it has made possible bringing back from our journeys something more than a memory. It brings home the pictured reality of past pleasures, to make them living

and real, a something to be picked up and enjoyed over and over again. It is claimed by some that back of the photographic industry stands a gigantic money-grabbing trust. This may be questioned; but there can be no question of the beneficial results to the peoples of the earth. Just as much as the advent of steam and electricity, the introduction and use of the hand-camera has brought us nearer to the inhabitants of other lands; contracted the circle of existence and brought us in closer touch with our neighbors over the seas. All this can be said in relation to any other season of the year; but the large number of cameras in evidence during the summer months



THE PASTURE GATE



ONE SUMMER'S DAY

makes the truth strike home with greater force.

Summer, the time of frocks and frills; insistent call of distant hills, of longings for some foreign shore, on which to hear the breakers roar. The time when work seems out of place and business wears a frowning face. The time when we say "drat the thing!" and can't stick well at anything. When we begin to feel this way about it, it's time to pack up and start off on our summer pilgrimage.

Summer is the time of frills. Never anything truer than this, applied either to dress or negatives. During the hot spell my lady dispenses with as much clothing as she dares, and the warmth of the wash-water will likewise strip the film from our negatives "if we don't watch out." Summer is responsible for more vagaries in the production of negatives than any other

season of the year. The water frills negatives and blisters prints with the utmost abandon. The remedy is to "keep cool;" ice the developer, and take an "ice" yourself occasionally. Keep down bodily temperature as well as chemical heat. Take time, don't hurry, either yourself or your prints, and tropical troubles will cease.

Out-of-doors, don't follow in the footsteps of the multitudes and "snap" promiscuously at everything in sight. Remember that "barking dogs never bite" and that "snapping" cameras rarely ever light—on anything worth recording. Summer seems to be the season of haste, a sort of devil-me-care period, when everybody is out for a good time and no one stops to consider the cost. A rest, now-a-days, seems to consist mostly of rush, a rush to get in as much as possible during the narrow limits to a vacation. Haste

to the body, brings a waste of tissue and an overstrained nervous system, and haste, in picture-making, means a waste of material, both in lost opportunities and hard cash.

It is safe to estimate that more pictures are taken by amateurs during the three summer months than during all the other nine months of the year put together and, naturally, where so many are made, there are a great many good ones; but just consider the frightful amount of waste, due to hit-or-miss exposures. Owing to the wholesale efforts of the big camera manufacturers, and the excellence of the present-day photographic magazines, the public is beginning to realize the practical and profitable possibilities of photographic recreation, and to give the matter real serious consideration. As a result the proportion of actual failures, or even mediocre work, is growing less

and less. In this country, at least, we will soon be a nation of painstaking, practical workers.

I started off on this subject with the intention to write a humorous article; but I must confess the real seriousness of the matter has temporarily paralyzed the working of my "joke-shop." "A little nonsense, now and then" is all right in its place, and is, rightly, appreciated; but just here it didn't seem to compound a proper formula. A serious subject requires serious consideration to master it; after it is mastered the smile and the laugh will find their place to light the way. A perfectly mastered study, no matter how sober and serious in its foundation principles, will soon let in the light of possession, to bring warmth and gladness to the heart and a smile to the lips. A good work, well done, is a light heart begun.



AUGUST HAZE

TIPPING THE CAMERA

NO instruction book on photography would be considered complete if it did not contain a solemn warning against the practice of tipping the camera, and it is one of the pieces of advice which the beginner seems more ready to observe than he is many of the others which are shed upon him. Hence a level on the camera is now regarded as almost as necessary as a lens; at least few, except the very cheapest, are without this appliance, though it is often neither very correctly fitted nor of very much use when it is correct.

There are certain subjects for which the camera ought to be level; but these are by no means a majority of those which the amateur is likely to attempt. Street scenes containing buildings, and much—but not all—architectural work, are best done with a level camera; but when these have been mentioned it becomes difficult to think of any other class, of which such a rule holds good throughout. On the other hand, there are very many subjects which are the better for not being taken with a level camera.

In the case of architecture, the most prominent exceptions to the rule are ceilings, or such subjects, where the aim of the photographer is to get a record of the detail of a ceiling or roof, the horizontal position for the camera is abandoned; the camera is stood on end, pointing upwards. It is difficult at first to see such photographs so as to get a correct idea of

the appearance of the subject; the best way is to hold up the print horizontally and then to look up at it from a position exactly underneath it. Only then will the walls, etc., if any are included, appear in their correct perspective.

But the case of a ceiling is rather exceptional, and we wish here to refer to subjects met with much more frequently with which tipping the camera is often very useful. We refer to the great majority of landscape pictures. Anyone will remember how often we have had occasion to condemn the inclusion of any sky in a landscape picture: while those who have to judge competitions in which there is much beginners' work cannot fail to be struck with the frequency of prints which have been altogether spoiled from this cause.

We cannot help the thought that in many of these cases it is not fair to put all the blame on the photographer himself. The importance of keeping his camera level, or at least of having his plate or film strictly vertical, has been impressed upon him by the textbook which is his guide, and the level with which his camera is fitted is a constant reminder thereof, and so, almost instinctively, when he comes to deal with a landscape subject, he glances at the level to make sure that he is complying with what he has come to regard as one of the essentials of success. As a result, nearly one-half of his negative is occupied by blank, uninteresting sky,

not true in tone with the rest of the subject, and making what was the real point of attraction to him look dull and insignificant by contrast with this big light area.

It wants more of an effort than many workers, at any rate amongst beginners, can make to sacrifice at least half of the print by trimming off the sky, yet that is then the only remedy; whereas, if the necessity for having the camera level had been a little less strongly emphasized from the first, he might have realised the advantage that was to be gained in such a case by tilting it downwards, and so have got rid of the sky and still have got a picture of a reasonable size.

PORTRAITS ALSO

Not only are a great many landscapes all the better for the camera

not being strictly level, but many portraits may also be put into the same category. If we find that the effect which we desire is to be got by tilting the camera in such work, there is no real reason why we should not do so.

It is only where it is necessary for record purposes, or where there are vertical lines in the subject which will suffer from obvious distortion if the camera is tilted, that we need worry ourselves about the level; unless, indeed, it is to see that the camera is not tipped to one side or the other. This, it is true, can be remedied by trimming, but there may not be enough margin on each side of the subject to allow of the remedy being applied.

W. D., in *Photography and Focus*



GOOD OLD SUMMER TIME

Clarence Huffman

SOME PRACTICAL CONSIDERATIONS IN HIGH SPEED PHOTOGRAPHY

Extracts of a Lecture delivered before The Royal Photographic Society of Great Britain.

BY ADOLPHE ABRAHAMS, B.A., M.D., M.R.C.P.

IF there is one subject essentially and altogether devoid of philosophical abstractions it is high-speed photography. There is nothing in it which is not practical. As a fact, I have simply strung together a few of my experiences, and put at the head of them the first title which came into my mind.

WHAT IS HIGH-SPEED PHOTOGRAPHY?

When I last lectured here one speaker asked me, quite properly, what I meant by the term. It is an utterly indefinite sort of expression, and I said at the time that I preferred to make use of such an expression, indefinite as it was, rather than to make confusion worse confounded by employing fractions of a second, that is, scientifically accurate intervals of time, which had no actual existence. If one were dealing absolutely with known fractions of a second, it would be a different matter. Here and there, no doubt, there are shutters which are accurate, but the vast majority have figures upon them which can only be regarded as figments of the imagination. This would not matter so much if all of them were equally wrong. But what is marked $1/500$ of a second on my shutter may have a value of $1/2000$ on that of Mr. Jones, and $1/10000$ on that of Mr. Robinson. I prefer, therefore, to say,

or, rather, think of $1/x$ of a second; the absolute fractions mean nothing to me. Not merely are the shutter speeds actually inaccurate when compared one with the other, but, what is still worse, the relative speeds on each shutter are equally hopeless. Therefore I prefer to leave the question honestly indefinite, and I try to teach that every shutter must be considered as a law unto itself. The thing for the worker to do is to standardize his own shutter, and to remember that the same speeds do not apply to his neighbor's shutters.

If I were betrayed into defining high-speed photography in terms of absolute fractions of a second, I should say that it began at about $1/3500$ th of a second. I am perfectly aware that this idea will not be popular with makers of very good shutters whose maximum speed is $1/1000$ th of a second, who point out what a great amount of high-speed work can be done with these limited speeds. What they mean is that you can do a certain amount of high-speed work, so called, if you limit yourself carefully, and they advise you to recognize and select only certain intervals which are, relatively speaking, immobile. For example, in lawn tennis there is an instant, between the upward and down-

ward course of the ball, when the ball is absolutely at rest, and the same is true of the golfer at the top of his swing. A man who is skillful enough, I suppose, could make such exposures with a cap instead of a shutter. Again, in many athletic actions, such as those, for example, in rowing and diving, there are moments of relative immobility. Therefore makers of these slower shutters are entitled to suggest that if the worker limits himself, and very, very carefully selects his period, he may do excellent work with speeds of $1/100$ of a second, or even longer intervals than that. But, of course, what is forgotten is that, although these intervals exist, it requires almost superhuman skill to be certain of securing them, and in fact any worker who was so skillful would be a distinct acquisition to high-speed photography, and ought to specialize in it.

In the case of lawn tennis, for example, if you are a brief fraction of a second late, you get the photograph, not at the interval of rest, but actually when the racquet is moving at its very highest speed, and an exposure of $1/100$ of a second would result in a hopeless blur. Or in the case of the golfer, if, instead of getting the interval of rest, one is a moment too soon, one catches the club at its fastest, and $1/100$ of a second would be quite unequal to the task of representing the action. It is true that the runner in his stride is poised for a certain interval on his foot, but if you consider the rapidity of his limbs, and the swiftly varying phases through which his anatomy passes, you will realize that it requires special skill indeed to select that instant of rest. One may take it,

therefore, that exposures at the instants of rest, working at speeds of $1/100$ of a second, represent counsels of perfection. High-speed photography is, after all, a distinct specialty, and requires necessarily special apparatus. A good shutter may incidentally take a few "instantaneous" pictures, but it would be a poor thing indeed for a high-speed photographer to possess merely a shutter having such definite limitations. It would be like possessing a motor-car which would do very well on the level but would be uncertain down hill, and would not go up hill at all.

FURTHER CONSIDERATIONS OF MOVEMENT.

I have alluded to one consideration of movement, and now I come to another. The majority of photographs are always taken at a very slight angle, or as nearly as possible straight in the face of the camera. In very rare instances are they taken from behind. The reason one takes photographs from as small an angle as possible is because the movement as seen from that position is relatively very much less than when the photograph is taken at right angles. But, of course, the high-speed worker must be prepared to take the right-angled view. The case I show you (that of a hurdler) represents one of the highest speeds possible; this steeple-chasing horse is another example, and the high-speed worker must be prepared at times to deal with subjects such as these, more or less from the right-angled position, because no other opportunity presents itself. As you are aware, the exposure to be made upon any moving object will depend solely upon the displacement

of that moving object upon the plate. That, in its turn, will depend first of all upon the velocity of the moving object itself; next, upon the distance of the moving object from the camera, which will be based upon the focus of the lens (the longer the focal length the larger the image, and therefore the greater the displacement on the plate), and, in the third place, it will depend upon the angle at which the moving object is situated in reference to the camera.

We have first, therefore, to consider the question of velocity. The velocity of some objects is readily ascertainable. A railway train, for example, may be running at 60 miles an hour, which is 88 feet per second, and this admits of a single calculation. In the case of a motor-car with a speedometer attached, one may know exactly the velocity. But how is one to judge the velocity of such things as a jumper, or of a man whirling "a hammer?" The huge majority of moving objects have not got a definite and determinable velocity, and even if one arrives at the actual velocity of a moving object in a straight line, this leaves out of consideration—and is bound to do so—the movement of the separate parts, such as the hoofs of a trotting horse, or the limbs of a runner, or even his rapidly moving features. None of these factors can be taken into consideration, for the simple reason that they cannot be calculated, and it is often these side issues which determine the rapidity of the required exposure, and make this exposure seemingly out of all proportion to the velocity of the moving object simply considered as in a straight line.

DISTANCE OF MOVING OBJECT FROM THE CAMERA.

The distance of the moving object from the camera is really the most practical question of all, and this is the rock upon which we shatter, for it is futile to go into calculations as to the exposure needed for any particular moving object at any particular angle before deciding with what size of image one is going to be satisfied. But, of course, it all depends upon the size of the moving object on the plate. If one is satisfied with a little tiny image, these lower speeds may answer. In a great deal of so-called high-speed work the figures are taken from such a distance that $1/50$ th of a second would suffice. Until people are agreed as to what sort of size of moving object they want to get on the plate, it is quite ridiculous to try to frame any sort of table at all. When the high-speed photographer goes in for elaborate work, he naturally desires to get as large figures as possible, but it is not until you start to get the largest figures on the plate that you realize that the high speeds essential for these subjects are, after all, your own criteria. They may appear absurdly fast to the man who is satisfied with very small objects.

We find, therefore, that if we want to take a moving object, and give an exposure according to rules, we have first to determine its velocity (which we cannot do nineteen times out of twenty); then to determine the distance at which we shall be situated from that object at the moment of exposure (which we can do sometimes, but not often), and finally to determine the angle of view (which we can do

after a fashion). Then we are self-stultified because the speeds of the shutter are wrong in 99 per cent. of cases. All that one can really do is to take the shutter, expose it experimentally upon certain moving objects, get used to the size of the image, and then determine whether the shutter is fast enough for that moving object. Thus, we carry in our mind's eye, not a speed of $1/500$ th of a second, but some indefinite speed which corresponds, say, to football, if we happen to have made football our experimental subject, and that is as far as we can go in reference to the speed of the shutter. It is rule of thumb, but really practical, and a great deal better than a lot of pseudo-science.

WIDTH OF APERTURE OF LENS.

I come now to the lens. When beginning high-speed photography we all form an impression that we have got to deal with something requiring extraordinary width of aperture. We think of something in the nature of $f/4$, perhaps even larger, and imagine that unless we have these very wide apertures there is not a ghost of a chance of getting anything on the plate. We would, of course, rather have over-exposure than under-exposure, and if we could use $f/1$ or $f/2$ we would prefer it to $f/6$ or $f/8$. But, again, it is a matter of practical politics. Of course, if you use a baby lens with a focal length of, say, $1\frac{1}{2}$ " you may be able to get out something which is as sharp with $f/4$, but it is a very different thing in the case of lenses of, say, 8" focal length.

In the majority of subjects into which high-speed photography enters, considerable depth of focus is not an

urgent necessity. One has got a great number of figures at varying distances from the camera. But some depth of focus, at any rate, is desirable, and it is not until you try to use such an aperture that you realize how little depth is given at $f/4.5$ or so. This picture of a girl skipping with a hoop is an example of one of the highest speed subjects it is possible to obtain, and so rapid is the shutter needed that the widest aperture lens one can conveniently employ must be utilized. In the instance shown on the screen, the aperture was $f/4.5$, yet although the focusing was most careful, there is so little depth of focus in a lens of that kind that the face of the skipper and the back of the hoop are not both accurately sharp. Yet, the slight diffusion is not due to movement during exposure, so rapid is the shutter, but actually it is due to the absence of sufficient depth of focus in the lens. We do not want these very, very wide aperture lenses in high-speed photography, because they are impracticable except for work at a distance.

I therefore select a medium lens with a wide enough aperture for most high-speed subjects, and yet sufficient depth of focus to serve for the purpose I have just indicated. The high-water mark is reached by $f/6.3$ —of that I have no doubt whatever. There are people who use wider aperture lenses than that, but their purpose is usually to get something out on the plate, and then enlarge. The majority of men, professional pressmen, or experienced amateurs, working right through the year, summer and winter, put their stop at $f/6.3$ on January 1st, and ever alter it. I know I am rather



"A STITCH IN TIME SAVES NINE"

R. R. Sallows

emphasizing this question of depth of focus, but I feel that I cannot emphasize it too much. If there is one thing which I would repeat again and again, it is that a high-speed photograph must be perfectly sharp. We cannot deal with fuzzy effects in high-speed work. They will not be admitted in the majority of cases. Needle sharpness is what is desired. There is no excuse for diffusion, whether it be due to lack of focus or to movement during exposure. With a wider aperture it becomes impracticable to attain the requisite depth of focus, and to secure sharpness is an awful labor; for even working upon single figures the margin of error is very tiny.

THE SWING FRONT.

There is one little tool which is a help in this connection, namely, the swing front. It is obvious that you can obtain equivalence of focus all over a plate if you can adjust the relations of plate and lens. The swing back, which might serve this purpose, is impracticable, mainly because of the focal plane shutter, but not so the swing front. In the case shown on the screen (a long string of runners) the leaders are taken so near to the camera as to make a very rapid shutter indispensable. The lens has an aperture of $f/6$, and yet, by swinging the lens properly, the men at the back are made to be equally as sharply in focus as the men at the front. Here again, standing above the figures (on a bridge, the subject being a boat race), by tilting the lens downwards, the depth of focus can again be increased indefinitely. In such an example as this, it is not merely the advantage of getting the man at the back and the men at the

front equally in focus, but getting the whole field for perhaps 100 yards under one's control, so that wherever the exposure is made, the eight will be absolutely in focus. The advantages of this, on a subject which offers uncertainty when exposure must be made, is self-evident. The swing lens has never come so much into application as one would have expected.

It may be asked, why not employ a swing lens invariably? Unfortunately it is necessary to select one's angle with a certain approximation to accuracy, and, of course, to tilt the lens the wrong way gives, not improved depth of focus but no focus whatever. The swing front will not act with intelligence on its own account.

LENSES OF LONG FOCAL LENGTH.

I come now to the question of the utilization of lenses of comparatively long focal length. It will be asked at once, what does a snapshot man—for that is what the high-speed worker must be called—want with a lense of long focal length? And this more particularly as I have emphasized the importance of depth of focus which, of course, short focus lenses relatively possess. But when one begins to think a little more on the subject, one begins to feel rather “fed up” with these short focal length lenses. It is a good many years ago since this picture of mine representing an important foot race was published which, whilst attaining international reputation, was made the target of severe criticism on account of the disproportion between the sizes of the runners. It was pointed out that between the leading runner and the last man there could not be more than a couple of yards separation, and yet

the last man appeared as a pigmy, only about half the size of the other, that is to say, 3 feet high. The reason was that the use of a lens of short focal length caused a very rapid diminution in stature of the runners which were at increasing distances from the camera. Very often this circumstance of diminution of stature is an advantage rather than otherwise, because it offers a suggestion of distances. But the disparity becomes rather important when one is dealing with objects of very definite size, for instance, with the University Boat Race, for the boat appears to be greatly lengthened out, and there is grave disproportion between the cox and the figure at the other end, who are separated by about 50 feet.

This arises, I say, from the use of a lens of comparatively short focal length, say 7" or 8". When you employ a lens of 14" to 15" focal length many advantageous applications will occur, the idea being to produce what I may term, for want of a more suitable word, better perspective, or a better sense of the relative distance between the different planes of the subject. I need scarcely explain that all I mean is that the employment of a long-focus lens permits you to obtain a larger image at a greater distance so that relative proportions are better maintained. This I term the optional use of the long-focus lens. But there is another use of the long-focus lens, namely, the obligatory use. If it is impossible for any reason to get sufficiently near to the moving object so as to obtain a reasonably large image, then a lens of long focal length is an urgent necessity. Instances of both the obligatory

and the optional use of the lens occur on a great many occasions, where one does not wish to come too near to the moving objects because of incommoding the subjects, while at the same time the use of a lens of longer focus gives better proportion to the *ensemble*. Therefore, a lens of long focus is a necessary part of the modern high-speed photographer's armamentarium, such a lens as of 16" or 17" focal length, with a stop of $f/5.6$.

Who would have dreamed, ten years ago, that it would be possible to procure such a lens; to stand 30 yards away from the scene of action and obtain as large and as good a picture as one could get by using a short-focus lens and standing close to the players? This is modern high-speed photography carried out in its most luxurious manner. Such lenses have the definition of the anastigmat with the advantages of the telephoto. The photographer may stand before the spectators and get equally good results with the privileged press photographer. Standing some distance away, it is possible to work without bothering anybody at all. A different instance of the obligatory use of the lens occurs in such a thing as "hammer" throwing, when, although one would not be incommoding anybody else by coming quite near, grave fears may be entertained for one's own safety. I am free to acknowledge that I never secured a satisfactory picture of a "hammer" thrower until I was able, with the aid of one of these long-focus lenses, to take it in comparative safety 30 yards away.

What I employed in the old days was a single combination of one of the

well-known high-class anastigmats. The focal length of such a lens was double that of the combined lens, but it had the great disadvantage of entailing the use of a corresponding small stop of about $f/12.6$. It is, of course, impossible at $f/12.6$ to do very much in the nature of high-speed work, but these single combinations of anastigmats really flatter their aperture, which becomes as useful as $f/8$ with many a combined lens. Whilst by no means a single lens, it is comparatively a simple one, and there are few air spaces for absorption. It served its purpose, but it had, naturally, limitations. Very different was the Telecentric lens with which I worked throughout the Olympic Games at Stockholm. There I worked at $f/6$, and obtained results from the spectators' stands just as successfully as though privileged to stand upon the track. In fact I often beat the pressmen in spite of my handicap.

Long-focus photography reaches its extreme in telephotography, but the application of telephotography to high-speed work is limited. Its advantage comes out very well in a subject like cricket. Cricket, to get any characteristic incident, calls, not only for a great deal of experience and practice, but for a certain amount of pluck. To stand sufficiently close to the wicket is always extremely trying, for there is the constant danger of being badly hit. That, however, is not where the pressman stands. He takes his station now on the top of the pavilion a hundred yards away or further, and uses a lens having a focal length of 36". The Magnar lens, I think, is the only one of that description. It works at $f/10$,

and is the size of a young drain pipe. So distant does the photographer stand from his quarry that he has to take observations through a little prism monocular attached to the camera. This lens has also been employed to a certain extent in the photography of big game, and the results are very wonderful. For the ordinary worker this lens is rather out of the question, and even with the Telecentric lens of 17" focus, and standing 30 yards or so away, it is not all plain sailing without some practice. The first difficulty is that of dodging other cameras which are much nearer to the subject; and, again, one is apt to forget that in spite of the distance separating one from the subject, a very big image is being obtained with the result that the head or other part of the figure may be inadvertently amputated.

THE SHUTTER.

A few words may be said about shutters. This is a subject constantly coming up, and one which never seems to get any further. The focal-plane shutter was the only one available until comparatively recently, and so focal-plane photography and high-speed photography were synonymous terms. Between-lens shutters had from time to time been manufactured, but they were of fabulous price and wholly unsatisfactory as they produced intense vibration which shook the camera to pieces. So the focal plane held the field. Its disadvantage was distortion. It is quite clear that where a shutter moves, as the focal plane does, in the form of a slit in front of a plate along the plate's length, distortion must occur in photographing a rapidly moving object. Thus it comes about that

as you see here we have a long-drawn-out appearance given to a racing motor car, taken broadside on, or, in the case of this tennis player, a curve of the racquet. As the object moves, it becomes exposed in parts, and it moves so rapidly that a distinct distortion is often produced.

Until the "Multispeed"—a between-lens shutter—came in, we used to accept that sort of thing because we had no option. The Multispeed being a between-lens shutter gives a good sharp image without distortion, even in the case of a motor-car running at 70 or 80 miles an hour—a subject which it was almost impossible to obtain with the focal plane owing to the great lateral velocity. Another great advantage of the Multispeed shutter is its efficiency. Upon the efficiency of shutters a great deal of nonsense has been written. The quarrel depends fundamentally upon the hypothesis that the focal plane has got an efficiency of 100 per cent., or, in other words, that the light to the fullest amount available passes through the lens onto the plate. But the focal plane has not an efficiency of 100 per cent. It would have such an efficiency if you considered one ray of light passing through a large slit, but as you diminish the width of the slit and increase the aperture of the lens (these are of course the usual concomitants of high-speed photography) the efficiency of the focal-plane shutter falls and falls. If you are dealing with, perhaps, an aperture of $f/16$, and a very, very large slit such as you would use in exposures of $1/20$ th of a second, you would have an efficiency of practically 100 per cent. But with a very wide

aperture and a very narrow slit, so much of the light does not get through the slit that the efficiency falls perhaps to 43 per cent. I am speaking even of really good shutters; in badly constructed models the efficiency is still lower. Seeing that the Multispeed shutter has an efficiency of from 55 to 60 per cent. and sticks at that, there is no wonder that it beats the focal plane.

I started very much prejudiced against the Multispeed shutter. It came from America with such a *furor*, and was accompanied by such wretched examples of work done by means of it, that we took it up here in no very hopeful spirit. Two or three exposures, however, convinced other workers and myself of its extraordinary efficiency. The shutter beats the focal plane for the simple reason that it is not a focal-plane shutter at all, and there is no lateral distortion, and also because it has such a high and constant efficiency. I show a test example of a golf ball leaving the tee, which is a supreme example of high-speed work. In the focal plane rendering the ball does not suggest a spherical body, and the club is unrecognizable. In the case of the Multispeed shutter, on the other hand, the golf ball, while not by any means sharp, is at least something like a spherical body, and the club is almost sharp. Of course, the Multispeed shutter has its disadvantages. We would use it for every sort of exposure if it were easier to operate; but it requires somewhat elaborate winding up, and it is not nearly so easy to use on the majority of speeds as the focal plane. For really high-speed work, however, there is not the slightest doubt in my

mind that the Multispeed shutter is the shutter to employ. Among its other advantages there is practically no inertia, a feature which makes it so valuable for subjects like cricket, where one has to wait until the actual event is occurring before pressing the release. And, furthermore, it appears to me as though the Multispeed shutter acts as a stop so that the depth of focus is very much increased. At any rate I have been amazed at the depth of focus obtained with the shutter used with comparatively wide aperture lenses, and I think there must be a distinct diaphragm action.

CAMERAS.

There are only two types of camera for serious high-speed photography, namely, the reflex camera, and the folding type. The reflex camera has several disadvantages—its size, its weight, its shape, clumsiness generally, and its price. Against all this you can put practically only one advantage—but what an advantage!—namely, the possibility of obtaining very sharp and accurate focus easily and quickly. Our professional brethren, the pressmen, use folding cameras, and up to a certain point they are quite right to do so. A great many photographs may be comfortably taken provided there are opportunities of obtaining the focus sharp beforehand. The best way is to focus upon the focussing screen, and the next best way is to judge the distance beforehand by stepping it out or using the tape measure. We know, for example, where the tennis player is going to stand to serve, and can focus upon that spot. We know, too, where the obstacle is that the jumper is going to leap, or the point from which the

diver will take his plunge, and so on and so on. I do not believe much in judging distances by the eye, at least not for the amateur. In comparing the amateur and the professional, we may say that one difference is that in the case of the amateur he aims to do much better work, and is not satisfied unless he obtains something very distinctive; but, on the other hand, the professional must get some result, even if it is not of superlative value. Again, the professional must, in some respects, do better work than amateur because it is his business in life, and his camera is part of himself. Whatever the professional may be able to do in the way of rapidly estimating distances under all sorts of atmospheric and other conditions, I do not believe that the ordinary amateur can judge distances with any sort of accuracy, and, of course, mere approximation is of no value. A mistake of a foot or so is a serious business with a lens of the aperture employed in high-speed photography.

In the case of a certain number—perhaps the great majority—of subjects the folding camera answers, because it offers the possibility of getting the focus beforehand when there is no urgency, but in a great many others it is not possible to judge that distance or there is no time to focus. It is here that the reflex answers so well. The camera is loaded, the shutter is set, the dark slide drawn; one has merely to look down on the screen and give a touch of the focusing screw at the last instant, and the focus is sharp. What, then, can be done with the reflex is to focus right up to the last instant with the certainty of knowing that

there is absolutely sharp focus on that given point. In the case of very slow moving objects (like yachts, for example) the reflex has another use, for it enables us to compose as the movement takes place, and that is why professional photographers find it valuable, especially in the photography of children. Very few pressmen, I repeat, use the reflex, for the average press photograph rarely offers an example of high-speed work. What it shows is very often some more popular feature than the actual event, a portrait of the posed athlete, or a view of the prizes, or some side incident which is not high-speed work at all, but of a "newsy" character. There, again, comes in the contrast between the amateur and professional, and that explains to a certain extent why the reflex does not appear to be of quite such enormous importance in the hurly burly of press photography. I have dealt with this point rather in detail because it is so often urged against the reflex that professional pressmen who are the best judges do not often employ it.

I may say a few words at this point on the expression of motion. There are two ways of expressing motion. One is to show that the object was moving during exposure by getting a blurred image; that, of course, is inadmissible. The other way is to suggest movement by association. In the hands of a genius of pictorial photography, movement can, no doubt, be very cleverly suggested by fuzziness, but such possibilities are beyond the snapshot man. We suggest movement by association, the foam in the wake of the boat, or the steam from the fun-

nel of the engine, for example, and we are always on the lookout for anything in this way to signify movement. It is fascinating to analyze the movement of various objects, and to decide when to expose so as not to lose or diminish the appearance of movement. In a racing eight, for instance, exposure should never be made when the men are in the middle of the stroke, but preferably when they reach right forward, and in tennis and other games the flying ball offers the necessary association with the movement and attitude of the player. In attempting to expose at the right instant it is naturally very easy to make a mistake, and, curiously enough, nearly always the mistake is made in the direction of being too soon rather than too late. In looking over my collection of slides for this lecture I had some difficulty in finding an instance of any actions having been taken too late. The analysis of movement has its special interest in relation to horses. The picture of a horse galloping at full speed may give little or no idea of movement. The eye has a blended impression of the various phases, most of which are relatively uninteresting looking but which unite to give spirited action, while the fleshless camera picks out only one phase. Muybridge, the pioneer in this work, succeeding in analyzing fourteen phases in the gallop of the horse; I have narrowed the number down to eight, and practically there are only six essential ones. The whole movement in a fast gallop lasts about one-third of a second, the longest phase of all, the pivot, lasts quite an appreciable time, one-seventh or one-eighth of a second. This phase, we

should expect, is the one most frequently caught in isolated exposures. The shortest phase is that in which all four hoofs are off the ground together, and only occupies one thirty-fifth of a second. By the law of averages it follows that photographers will very rarely obtain this shortest of the half dozen phases. In trotting, the phase in which all four hoofs are off the ground, as I have calculated by the cinematograph, lasts quite an appreciable fraction of a second. The first photographers who produced such a phase plumed themselves very much on their achievement, but it is all a matter of luck.

The value of the camera in judging races, by the way, is very liable to be over-estimated. Unless absolutely at right angles to the finish of the race, it is almost useless. An attempt was made at Stockholm to judge races by means of the camera, but the camera (a tiny short focus one) was carried to a high elevation, and actuated by means of an electrical release. I do not imagine that the results were very satisfactory. What the camera can do is to show the fault of the player, or the curious way in which he may violate the supposed conventions, how, for example, in the racing eight, the movement of the stroke may be behind that of his men, or how at the instant of the weight leaving the hand, the hand moves faster than the weight. I myself have employed the camera in sport on almost innumerable occasions in this way.

DEVELOPMENT IN HIGH-SPEED PHOTOGRAPHS.

Finally, as to the development of high-speed photographs. Ordinary pyro-soda, liberally diluted and kept warm, is the best developer in my experience. By "liberally diluted" I mean about three times the dilution given in the ordinary formula. I never employ bromide of potassium. The temperature of the developer is 70 degrees. Pyro-metol does not give such good printable results as pyro-soda. Also, sometimes, even in high-speed photography, over-exposure occurs, and then pyro-metol spells ruin. For ordinary exposures there is nothing to beat pyro-soda. As to stand development, I have never found it give better results than the ordinary method whereas it does introduce a liability to chemical fog and markings of a mysterious nature. One point I may mention about under-exposure is that it has been suggested that the latent image intensifies by being left. So experienced a photographer as Mr. Gear, on the other hand, says that he does not believe this to occur. I certainly obtained one very suggestive result through leaving a plate for a whole year, and then developing; but for a real test of that description one must be very exact, and use two halves of the same plate, developing one at once, and the other after the proper interval, precisely under similar conditions.



CURRENT EVENTS *and* EDITORIAL COMMENT

IN this issue will be found an extract of a recent lecture, "Some Practical Considerations in High-Speed Photography," delivered by Dr. Adolphe Abrahams before a Technical Meeting of the Royal Photographic Society of Great Britain. The lecture was illustrated throughout with lantern slides, reproductions of which we are unable to show, but the reader can comprehend the full meaning of the different examples, through the clearness of the descriptions given. Of all the workers in photography who write and lecture on this subject, we feel sure our readers will agree that none surpass Dr. Abrahams in this subject or the fullness of his explanations. Much has been written regarding the essentials for speed work by persons well qualified in this subject, some consider the lens as the most important for consideration, others the shutter, while others the plate, with either the lens or shutter, or both. Dr. Abrahams covers all these points in his address, and also the matter of distance from the moving objects to be photographed.

SOME time ago, if our memory serves us aright, a movement was inaugurated by a suburban municipality, or civic association, where public improvements were then under way, to have photographs taken from several different viewpoints, of the places to be improved, to show as the years go on the changes that have occurred in the growth and development of the town. We do not know whether this idea has been kept up, but we certainly do feel that it is a move in the right direction. In fact the more so on account of a little experience within our own knowledge. In explaining to a visitor to our vicinity that here stood the old mill with the old water wheel and race, the location of which is now converted into a park with a charming landscape, and here was the location of the old swimming hole and skating pond in winter, the thought flashed that if only some picture to show the reality of the picture we were trying to explain from memory could be produced. Many a "boy" returning to the old home will feel less lost if confronted with some picture of the town as he knew it.

THE NEW AMATEUR PRINTER

The Kodak Amateur Printer is a new electric article for the amateur who does his own finishing. It embodies the latest ideas in photographic printing. Maximum speed in printing is assured and masking and exposure are both automatic. The construction is simple without any unnecessary operating in manipulating but complete in all details.

Combined with the Kodak Film Tank it makes the amateur his own finishing department.

The price complete, \$5.00, includes red bulb and five and a half feet of electric light cord with socket (Mazda lamp is not included in this price).

☆ ☆ ☆

PHOTOGRAPHERS' ASSOCIATION OF
AMERICA

The Thirty-fifth Annual Convention of the Photographers' Association of America will be held in Indianapolis, July 19th to 24th, inclusive.

From the tentative program arranged those attending will have a very busy week.

Beside the various business meetings, quite a number of demonstrations are to be held daily. Lectures will be given by well known persons on matters photographic, one of the most important being on the "History of the Development of Color-Photography from its Beginning to the Discovery of Kodachrome," by Dr. C. E. Kenneth Mees of the Eastman Kodak Co. The lecture will be illustrated with slides.

An automobile race by professional drivers for a purse provided by the convention will be held on the Indian-

apolis Speedway. This race is exclusively for those attending the convention.

It is expected that this convention will be the largest in point of attendance and the most successful on account of the central location which has ever been held.

☆ ☆ ☆

PANAMA-PACIFIC EXPOSITION ILLUMINATION OF BAUSCH & LOMB
MANUFACTURE

Visitors to the Panama-Pacific Exposition in San Francisco are impressed by the wonderful night illumination of the different buildings.

It is our pleasure to advise that practically all the lenses, mirrors, etc., used, were made by the Bausch & Lomb Optical Co., of Rochester, New York, well known manufacturers of photographic lenses and accessories.

The great 435 foot Tower of Jewels, with its 125,000 cut-glass jewels or prisms, is the most dominant feature, also the dome of the Palace of Horticulture, and the Aurora Borealis. The spectacular effect depends to a great extent to the lenses of the powerful searchlights and reflectors used, as does also the electrical substitute for the fireworks display.

The value of the mirrors alone (723) which were supplied to the Exposition is nearly \$50,000. The largest parabolic mirror being 60 inches wide. In addition to the mirrors, 325 cylindrical diverging glass fronts for use in searchlights were supplied.

The exhibit of the company in the Palace of Liberal Arts is of interest to professional men and photographers and the public generally for the variety

of scientific instruments, photographic lenses, Balopticons and photomicrographic equipment on view.

☆ ☆ ☆

The Bartholdi Institute of Photography has removed to 1147 Broadway, near 26th Street, New York City. This new location will enable Mr. Bartholdi to better serve his pupils and be in a more central location for prospective pupils and clients. Mr. Bartholdi is a painter of considerable merit and gives to his pupils his experience of forty years, teaching the principles of art and photography.

☆ ☆ ☆

G. Gennert is the American agent of the Imperial Flashlight Plates. Extreme speed is the advantage claimed for this plate and its use generally by press photographers is a sufficient testimonial.

THE SPELL OF FLANDERS

Edward Neville Vose—The Page Company, Boston, Publishers.
Price, \$2.50.

The casual reader of to-day is probably more familiar and interested in news reports of happenings in Flanders than would have been the case of a year ago. Events have transpired within that time and within that territory which will always stand out as a vivid spot in world history. How many of those who are now well posted on the history of this famous battle ground of the ages, could have recalled to memory one-tenth of their knowledge a year ago? Yet to some this war-stricken region has always been an inspiration.

The "Spell of Flanders" is a record of a vacation tour in the old Flemish towns of Northern Belgium which



AFTERNOON IN JULY

Floyd Vail

ended a few weeks before the awful scourge of war swept across it, and obliterated for all time some of the most valuable of heritages.

The itinerary of the tour described was to follow in a fairly chronological sequence as far as possible the development of Flemish history, architecture and art.

We have admired the splendid and heroic defence of the Belgians against overwhelming odds and in the same measure we have admired the patience and skill necessary to erect some of the noblest examples of mediaeval architecture and the collection of priceless paintings of earlier days.

This book contains twenty-two chapters, and fifty-two illustrations, four of which are in color.

☆ ☆ ☆

The June issue of *Portrait* contains among other interesting features the Hunter and Driffeld system of plate speed testing which is used in the Ansco Company's research laboratory.

In Chapter VIII of the Features of the Human Face, Mr. Sidney Allan deals with the Chin and Ear, as a special study for portraits. The previous issue covered Wrinkles and the Cheek. This series of studies is proving of immense value to photographers. The cover illustration of the June number is Mr. William Louis Koehne, the well known Chicago photographer.

☆ ☆ ☆

As a companion to the Premoette, Sr., is the Premoette, Jr., made by the Rochester Optical Division, Eastman Kodak Co. It is made in two sizes, No. 1 for $2\frac{1}{4} \times 3\frac{1}{4}$ pictures, \$5.00; No. 1A for $2\frac{1}{4} \times 4\frac{1}{4}$, \$8.00.

The camera is only a trifle larger than the picture it makes and can be carried easily in the pocket or a lady's handbag. It is a daylight loading camera and is fitted with a Kodak ball-bearing shutter. The general appearance of this camera invites confidence which is amply repaid by the results obtained.

The Premo Catalogue, describing these and many other desirable models, free at your dealers or mailed upon request.

☆ ☆ ☆

We have a copy of the Ansco Portfolio containing the 1915 advertisements. It contains all the advertisements which have appeared in the magazines to date, except those in color which appeared in the *Metro-politan* and *Harper's Bazaar* for May. These advertisements certainly make a favorable impression, and ought to be instrumental in substantially increasing the sales of Ansco products.

☆ ☆ ☆

HOT WEATHER PRECAUTIONS

Writing in a recent issue of *Photographic Scraps*, Mr. Harold Baker has this to say regarding the variation of temperature and its effect on plates and paper:

Trouble may arise in hot weather, with plates and papers which normally, are quite proof against ordinary variations of temperature. I think it wise to take precautions not only against blisters but actual melting of the gelatine in very exceptionally hot weather.

In a large town it is possible to obtain ice, but few photographers would care to go to the expense and trouble

of using it. A good deal may be done by standing the developing dish in a larger dish of cold water from the tap. Solutions may also be kept cool by putting them into stoneware jugs, wrapped around with cloths kept wet by a dribble from the tap, and if the jug can be placed in a draught still quicker evaporations will be caused and the temperature of the contents lowered.

Precautions should be taken when fresh solutions are made up as the solution of crystals usually gives rise to cold. Carbonate of potassium is an exception as its solution produces heat, so that if a quantity of the dry crystals be placed in a glass bottle and a little water added, the bottom of the bottle may be cracked off by the heat produced. Hypo on the other hand sets up intense cold, and I have found a jug dissolving crystals that had been placed one winter's day on a wet bench, frozen to it. If a fresh hypo solution is made up for either plates or papers, therefore, it should be warmed to the temperature of the other solutions before use, or the other solutions must be reduced to the temperature of the hypo.

When we have taken the necessary precautions with our solutions, our troubles are not always at an end, because the gelatine films of dry plates may be damaged by drying. I have seen negatives absolutely ruined by the melting of the film, when they have been put to dry in a hot room, or in the rays of the sun. In hot dull damp weather a plate may be spoiled by drying too slowly and will be covered with small pits or depres-

sions, surrounded by a ring of greater density, which is said to be caused by a micro-organism. This defect occurs chiefly in plates having a very thick gelatine film.

Most of these difficulties may be prevented, both in plates and papers, by using a bath of methylated spirit as soon as they are taken from the washing-water and drained. A simpler remedy and one I have applied for a good many years without any bad effect is alum. Certain products call for its use less than others I know of, but when a spell of very hot weather comes upon us, it proves of advantage with all. I find it most convenient to add the alum to the hypo, and if double the quantity of sulphite of soda is first dissolved in the hypo solution the addition of potash or chrome alum will cause only a slight milkiness in the mixture.

The possibilities of blisters and melting of the gelatine are not the only drawbacks that come upon us in hot weather. Heat accelerates chemical action so that plates will be more rapid and developers more energetic in hot weather than under ordinary conditions, and this often leads to over-exposed and over-developed negatives. Exposures should therefore be carefully watched and it will be advisable to add a little extra bromide and water to the developer, and to keep an eye on the dark-room clock to see that development is not carried on quite so long as usual.

If the user of photographic materials finds that hot weather brings trouble, what must it be for the chemist, who is responsible for their manu-

facture! Gelatine is an eccentric material even under normal conditions, but when it has to be used in exceptionally hot weather, in the production of modern rapid dry plates or papers, one wonders that a special ward does not have to be set apart for mental cases sent from photographic works.



A METHOD OF GETTING A LINEN-EFFECT
ON ORDINARY PAPER

New York City.

The chief article needed is a piece of very fine quality, light colored, silk chiffon. A lady friend or relative can easily supply you. Nail the chiffon, which should be considerably larger than the negative, to a smooth board so that the threads should be at right angles to each other and form small squares.

Cut out a mask of heavy paper, and spread adhesive on one side of it. Then lay it, adhesive side down, over the chiffon so that the threads run along the edges of the mask. Wait until almost dry and, having taken out nails, pull chiffon gently off the board. To finish, cut surplus goods off around the edges of mask.

To print, put the mask between the negative and paper in the printing frame and expose slightly longer (about 1 and $\frac{1}{8}$ of usual time).

For picture shown herewith cream colored silk chiffon was used and the exposure lengthened from eight to nine seconds.

CARL THUMIN.

★ ★ ★

To those interested, the Ansco Company are issuing a booklet, "Who Won?" containing reproductions of the first five prize winners in their America's Loveliest Woman Contest and the names and number of award of the other prize winners. The prize pictures are now on exhibition at the Panama-Pacific Exhibition in San Francisco.

★ ★ ★

Colona Developing Paper, made by the Sussex Photo Supply Co., Newton, N. J., has a grade or surface suited to any negative. It is made in three grades—Soft, Normal and Contract; also three surfaces—Glossy, Matt and Semi-Matt. All the long scale of tones, sparkling high-lights and details in the shadows are well reproduced. Samples and price list will be sent upon request.

★ ★ ★

Assur Colors, made by Schering & Glatz, New York, has been awarded a gold medal by the jury at the Panama-Pacific Exposition, San Francisco. Mr. Max Voetter is making practical demonstrations of the Assur Colors at the Exposition, where Messrs. Schering & Glatz have a large exhibit of colored photographs.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

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Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens
in cells, with case, will cover 5 x 7 plate wide open,
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If there is anything harder to keep track of than loose prints we have yet to make the discovery. Even the proverbial collar button is hardly more elusive. We put the prints between the pages of a book and then promptly forget *which* book and have to ransack the entire library in consequence. We put them in a box and from that time on that box seems to take particular delight in secreting itself in dark corners and out of the way nooks. And if we put them in an envelope, their ultimate destination is pretty sure to be the waste basket.

bunch of loose prints dumped out of an envelope ever could. And the interest of the album pictures may be heightened by their arrangement, titles etc. An album provides a never-ending source of enjoyment for yourself and your friends—it is the one book in your library whose story can never grow tiresome.

Any album is well worth while but it is the Kodak Album that makes a particular appeal because of its obvious convenience. Pocket strips at the top and bottom of its pages take the place of paste or other adhesive. The prints



The Kodak Album.

There is just one way to keep pictures and that is between the covers of an album. The album is always easy of access, any one of the line of Kodak albums, for example, is handsome enough to be a real ornament on the library table. You always know where the album is and between its protecting pages the prints are kept clean and untorn.

Then too, the prints look so much better nicely mounted on album leaves. They show up to their best advantage and the continuity of the picture story is properly maintained. Vacation pictures grouped together on succeeding pages tell their interesting story in a much more connected fashion than a

are not mounted at all—they are simply slipped in the pocket strips from which they cannot be removed except by hand. To put your prints in the Kodak Album is the work of an instant. The cover is of handsome grain leather and the leaves are black with linen finish. The price ranges from \$2.25 to \$3.50 according to size and style.

In connection with the Kodak Album, or in fact any print album, the wise amateur will provide himself with an Eastman Film Negative Album. The Eastman Film Negative Album does for negatives what the Kodak Album does for prints. It insures the negatives against loss and protects them from becoming scratched, torn or soiled. Now

(1)

Eastman Kodak Company

ROCHESTER, N. Y., The Kodak City.

that you are using an Autographic Kodak the preservation of your negatives becomes even more necessary. The important data appearing below each negative should be easily acces-



Eastman Film Negative Album.

sible at all times or much of its value is lost. Besides its other uses, the Eastman Film Negative Album will provide a reference book that will soon become invaluable.

The Price.

For 100 negatives, $1\frac{1}{8} \times 2\frac{1}{2}$	- -	\$0.75
For 100 negatives, $2\frac{1}{2} \times 4\frac{1}{4}$, or smaller		.75
For 100 negatives, $3\frac{1}{4} \times 4\frac{1}{4}$, or 4×5	-	1.00
For 100 negatives, $3\frac{1}{4} \times 5\frac{1}{2}$, or smaller		1.00
For 100 negatives, 5×7 , or smaller	-	1.50

MAKING THE VACATION PRINTS.

Naturally, you will take a Kodak with you—vacation pictures are often the best of all. And, naturally, you will take along a Kodak Film Tank so that you can develop your films when you wish, where you will. These will be included in your vacation kit as a matter of course. But bear in mind that the Kodak and the Film Tank alone cannot contribute *all* the fun that photography holds for you. Your pleasure in the finished print is so great that you no sooner take the picture than you want to see it in its finished form. The negatives from the Kodak Film Tank offer some satisfaction but the pleasure cycle is not complete until you have the print. History tells us that curiosity killed the cat. It is a wonder that the mortality

among amateur photographers has not been greater because their curiosity to see the finished work of their Kodaks is all-consuming—and yet some of them must wait weeks before they get within range of a finishing department.

Well, why not finish up the prints yourself wherever you may be, whether it be the primitive camp or the ultra-modern summer resort? The Kodak system of completeness and simplicity is impervious to the influence of environment. It works equally well in the brown stone front on Fifth Avenue or the rough log cabin in the wilds. The Kodak Film Tank settles the problem of developing and, as far as printing goes—why there is really no problem at all. If gas or electricity is available well and good; if not, why, no matter.

Kodak Velvet Green is an ideal paper for some of your vacation negatives, particularly landscapes or marines for the natural tint of the paper is the color of field and water—and *Kodak Velvet Green prints by daylight*. Wherever you may go, you cannot get a great ways from daylight. But Kodak Velvet Green is intended for the occasional print—it can never supplant Velox, for it has not the versatility of the "amateur's own paper." Make the bulk of



Kodak Magnesium Ribbon Holder.

your prints on Velox and carry your printing light right in your vest pocket—you can if you provide yourself with a Kodak Magnesium Ribbon Holder.

This extremely handy little apparatus provides a most convenient method of

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*



Kodak "Maskit" Printing Frame.

burning magnesium ribbon for photographic purposes. It comprises at once a compact magazine for storing the ribbon, a convenient holder for burning it, and a ready means of measuring definite lengths of the ribbon for printing on Velox and other gas light papers. It produces an intense white light the amount of which is determined by the length of ribbon projecting from the end of the holder. In this way the exposure may be accurately measured and any number of prints exposed exactly alike. The holder contains sufficient

ribbon for approximately three hundred average exposures.

For a printing frame you will want the Kodak "Maskit" because it is the simplest and most efficient device of its kind and because the "Maskit" locks the mask and negative so tightly together *that they cannot slip*. And not only does it prevent slipping, it also insures uniform white margins on all four sides of the print, providing standard size paper be used. In other words, no trimming is necessary—and that means something when you're a long way from a trimmer. The Kodak "Maskit" Printing Frame ranges in price from forty to fifty cents, according to size.

You will be surprised how little space the trays, chemicals (by the way, be sure they are E. K. Tested) necessary for the developing and fixing of the prints, occupy. They will fit in almost any old place. It may also be something of a surprise to find the pleasure these trays and chemicals help to make possible. The "other half" of photography presents one of its most delightful phases.

A first-aid to the time exposure.

The Universal Clamp

Virtually a pocket tripod, occupying scarcely more room in the pocket than a bunch of keys.

The unexpected time exposure always happens and the chance for a long desired picture, demanding a time exposure, is quite apt to present itself when your tripod is safe at home. At such times the Universal Clamp provides a satisfactory substitute.

It may be screwed into the tripod socket for any Kodak, Premo, Brownie or other camera of standard amateur sizes, and attached to a chair, fence, the front board of an automobile or other object which may be at hand.

It is constructed on the ball and socket principle, so that the camera may be quickly swung into any position desired.

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and
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\$27.50



The New 3^A KODAK

Has the autographic feature whereby you can date and title your films *at the time of exposure*, is fitted with the new Kodak Anastigmat *f. 7.7* lens—a lens that leaves nothing to be desired in definition (sharpness) and flatness of field and has more speed than even the best of the Rapid Rectilinear lenses.

The shutter is the Kodak Ball Bearing with instantaneous speeds of $1/25$, $1/50$ and $1/100$ of a second and, of course, the usual time and “bulb” actions. High grade in every detail.

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ON account of the continued success of the Revised Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed September 30th, 1915, so as to be announced in the November Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

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Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

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We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

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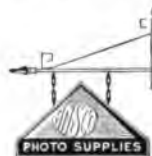
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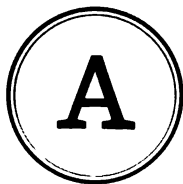
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Edited by W. I. LINCOLN ADAMS

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Volume XLVII

AUGUST, 1915

No. 8

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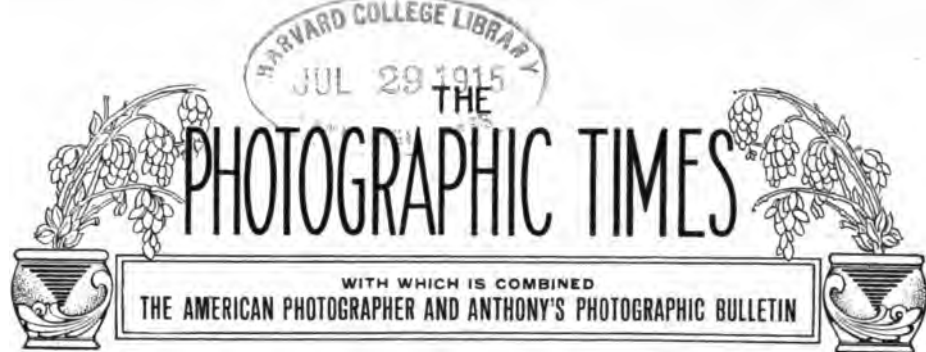
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"NEWS"

Harriet A. Stover

First Prize in THE PHOTOGRAPHIC TIMES' Print Competition.



VOLUME XLVII

AUGUST, 1915

NUMBER 8

THE PHOTOGRAPHIC TIMES' NOVICE PRINT COMPETITION

THE Judges have returned their decision in regard to the Novice Contest of THE PHOTOGRAPHIC TIMES' Competition Series, which closed June 30th, and we take much pleasure in making the announcement in this number of THE PHOTOGRAPHIC TIMES.

In doing so, we wish to explain that there are many very fine examples of photographic art which the Judges were unable to consider, because the competitors had been successful in previous PHOTOGRAPHIC TIMES' Competitions or other contests. The Judges considered as eligible for prizes only those who had not taken a prize in any previous PHOTOGRAPHIC TIMES' Competition, or other contest or public exhibition, and were, therefore, actually novices.

The competition was freely entered, and the average of the pictures was exceedingly high, notwithstanding the fact that the contestants were all novices. The Judges report that on the whole the pictures averaged as well as the other competitions which had been held under the auspices of THE PHOTOGRAPHIC TIMES, with the possible exception that the prize-winning prints

were not all equal in merit to the winners in former competitions.

The First Prize was awarded to Harriet Stover, for her artistic indoor portrait, which we reproduce as a frontispiece to this number of the magazine. Miss Stover failed to send us any particulars concerning the method of making her picture, though it is evidently a home portrait, made with a side light, and was finished on mat surface paper. The winner of the first prize receives High Commendation, also, for two portraits, one of a child, and the other of a young lady, which are reproduced on another page of this magazine.

The second prize was awarded to Dr. Dwight Tracy, an old friend and contributor to THE PHOTOGRAPHIC TIMES. The subject is a home portrait of the Honorable John Evan Prior, Judge of the Probate Court of Springfield, Connecticut. This print was an enlargement from an untouched negative, and is, in our opinion, an unusually fine example of home portraiture. Honorable mention is made of another home portrait by Dr. Tracy, which we reproduce on a half page elsewhere in this num-



"FISHING"

Elizabeth B. Wotkyns

Second Honorable Mention in THE PHOTOGRAPHIC TIMES' Print Competition.

ber. It also is an enlargement from an untouched negative, made in the same manner. The entire collection of portraits by Dr. Tracy is an admirable one, and entitled to the favorable comment of the Board of Judges, which they all received.

Third prize was awarded to the landscape with sheep, entitled "Contentment," by John M. Kinney. This artistic picture was made with a half second exposure on a dull day in early May, at three o'clock in the afternoon; stop $f/16$ was used, and a Standard Orthonon Plate. The picture was developed with Hydrochnone, and the print was made on Professional Cyko Paper.

First Honorable Mention is awarded to the excellent architectural subject by Warren R. Laity. He calls his picture "Sun and Concrete," a rather unusual title, which, however, describes the subject. This fine picture was

taken with an 8 x 18 view camera with No. 3 Daguerre Lens, half second exposure, stop $f/32$; the print is on Cyko Normal Studio Paper.

Second Honorable Mention is made for the original picture entitled "Fishing," by Miss Elizabeth B. Wotkyns. This picture shows a good deal of originality in both subject and treatment, and is very happily executed. The picture entitled "Ready to Alight," also by Miss Wotkyns, is highly commended.

Third Honorable Mention is awarded to the instantaneous picture entitled "Out for a Walk." This is an exceedingly good snapshot, showing life as it may be seen on any pleasant afternoon on Fifth Avenue, New York.

High Commendation is given by the Judges for the following pictures, all of which are reproduced in this issue: "Interested," A. R. Brown; "Dreamy



PORTRAIT

Dr. Dwight Tracy

Second Prize in THE PHOTOGRAPHIC TIMES' Print Competition.



"OVER THE HILL" Louis F. Bucher
Highly Commended, PHOTOGRAPHIC TIMES'
Print Competition.

Days," E. D. Leppert; "A Woodland Path," Belle M. Whitson; "Over the Hill," and "Three Men in a Boat," by Louis F. Bucher; these in addition to the highly commended pictures which have been mentioned in connection with the other prize winners.

Other pictures which received the favorable attention of the Judges, but were not considered by them quite excellent enough to entitle them to high commendation, are: "East River, N. Y.," by George Müller, Jr.; an interesting group of small snapshots, by R. E. Koopmans-Stadnitski, who only took up photography, he writes, last October, but is certainly entitled to



"THREE MEN IN A BOAT" Louis F. Bucher
Highly Commended, PHOTOGRAPHIC TIMES'
Print Competition.

praise for his well-selected and admirably printed snapshots; "The Cottage at the Bend," by H. M. Edwards; "After the Shower," a highly decorative landscape, by E. D. Leppert; a good instantaneous post card picture of a moving train, by R. E. Lake.

The subject of the next competition, which closes September 30th, is "Outdoors." No restrictions are made as regards the season of the year in which the pictures are made.



"CONTENTMENT"

John M. Kinney

Third Prize in THE PHOTOGRAPHIC TIMES' Print Competition.

THE PRINCIPLES AND USE OF STOPS

BY A. E. SWOYER

FEW indeed are the beginners, and almost as rare the more advanced amateurs, who pay any attention whatever to the scale and pointer set directly below the lens on the shutters of all but the cheapest cameras; yet this scale and pointer have a direct bearing upon many of the phases of photography, and by their intelligent use results otherwise impossible may be obtained.

To understand this the more fully it may be necessary to search a little into the principle of a lens's action; but as this subject has been treated at length in a preceding article, too much time need not be wasted upon it here. In brief, then, the quality of the image by any lens, as well as the exposure necessary to produce such image, depends upon the working aperture or the amount of light which the glass is allowed to pass on to the plate, while the control of this aperture or diaphragm rests, within certain limits, upon the pointer mentioned.

For the convenience of the photographer, the scale is marked with various divisions, often called speed numbers; these are determined according to one of two systems, known respectively as the "F" and the "U.S." In the F system, which is the one most commonly used in this country, each figure shows the ratio between the lens aperture and the equivalent focus; for instance, if we stop a lens down to, say, F:32 it will be working at an effective aperture of $1/32$ of its focal length. The usual F stops are

numbered 8, 16, 32, 64 and 128—each number being double the one preceding; the exposure with any stop, however, is not twice that with the preceding, but four times as great. The U. S. (Uniform System), while calculated upon the same basis, has its numbers increasing in exact ratio to the increase in exposure; in this system the exposure at F:4 is taken as a unit.

The relation between the two systems, as well as a means of translating one into the terms of the other, is shown in the following table:

F Numbers:

4.5 5.6 6.3 8 16 32 64 128

Equivalent U. S. Values:

1.2 2 2.5 4 16 64 256 512

All of which appears somewhat complicated, but the difficulties presented soon disappear with practice.

The dry preachment being over, we may now get right down to business and apply the facts to the conditions of photography. The first application of the stops with which the amateur is apt to come in contact is their effect upon the duration of exposure; this should have been brought out in the preceding paragraphs. The effect of exposure upon the stops is another matter, however, and worthy of consideration.

Suppose, then, that you have been working with your lens set at F:16, although it is a stop with which snapshots may be made only in the brightest sunlight, simply because you have



"SUN ON CONCRETE"

Warren R. Laity

First Honorable Mention in THE PHOTOGRAPHIC TIMES' Print Competition.

found that it gives you the kind of pictures that you like. But suppose still further; you want to make a snapshot at, say, four o'clock in the afternoon—in fact, you have to make a snapshot or lose the view altogether, yet at $F:16$ the attempt would result in hopeless under exposure. The remedy, of course, is to use $F:8$ —giving you four times the lens speed or enabling you to make a picture with one-fourth the light, which ever way you choose to express it.

At first glance it would seem as if such an occasion were not apt to arise, for the reason that the average photographer almost always uses the largest stop possible for all work; there are, however, enough exceptions to this rule to make the idea worth remembering. Then, too, while it is good general practice to use the lens "wide open" for ordinary work, most lenses will give better results when stopped down—an important factor when making photographs for reproduction, in copying and in other processes. This point will be brought out further in later paragraphs.

As a practical demonstration, set up your camera and focus sharply upon some object with the pointer set at the largest stop; if your lens is a rapid rectilinear or an anastigmat, you will find that one portion of the object only is absolutely sharp. Then move the pointer over to the next smallest stop; there will be a gradual dimming of the image, but more of the principal object will be in focus, and both the dimness and area of sharpness will increase as smaller and smaller stops are used. From this you may determine the control given by

the diaphragm over the image you expect to produce; if you wish a photograph in which the nearest rock and the most distant mountain are apparently equally sharp, then you must stop down accordingly. The distance between the nearest and the farthest points both of which are in focus is known as "depth of field"; it depends entirely upon the stop used, for two lenses of the same focal length—one a high-priced anastigmat and the other the cheapest of achromatics—will have the same depth of field when stopped down to the same aperture.

If you experiment long enough, you will find an object at such a distance that when you focus upon it the depth of field will be greatest the distance between the camera and the object will be the hyperfocal distance of the lens, and the point upon the focus scale upon which the index rests when this object is in focus is called the hyperfocal point. This is of great importance in hand camera photography, for with the index set at this point all objects distant from one-half the hyperfocal distance to infinity will be in sufficient good focus to allow of enlarging to several diameters; in short, your camera is converted for the occasion into one of fixed focus—a great advantage in street photography and in all kinds of rapid work where there is little or no time for adjusting a focus scale.

To render this information available, it is a good plan to mark the hyperfocal point (or points, for the position varies with the diaphragm opening) on the focus scale; nor is it necessary to determine the point by



"OUT FOR A WALK"

T. W. Lindsell

Third Honorable Mention in THE PHOTOGRAPHIC TIMES' Print Competition.

actual experiment. If F equals the local length of the lens, then $\frac{F \times F \times 250}{\text{stop used}}$

gives the hyperfocal distance in inches, and it is only necessary to mark that point on the scale. For example, suppose that you are using a five-inch lens at $F:8$; the formula would become $\frac{5 \times 5 \times 250}{8} = 781$ inches or 65 feet,

8

the hyperfocal distance—focussed for this distance, objects from 33 feet to infinity would be sharp. Again, suppose your lens were used at $F:16$; the distance would be 33 feet and objects from fifteen feet on would be in focus—a striking indication of the relative value of stops.

In marking your focusing scale, the following table will be of service; the right hand column gives the hyperfocal distance and the one next to it the distance from which to infinity objects will be in focus.

5 INCH LENS

F: 6.3	Nearest object	42'	Hyperfocal	84'
F: 8	"	33'	"	65'
F: 16	"	16'	"	33'

6 INCH LENS

F: 6.3	Nearest object	61'	Hyperfocal	121'
F: 8	"	48'	"	95'
F: 16	"	24'	"	48'

8 INCH LENS

F: 6.3	Nearest object	108'	Hyperfocal	216'
F: 8	"	85'	"	170'
F: 16	"	43'	"	85'

Hyperfocals for lenses of other focal lengths and openings may readily be calculated from the formula. A study of this table is interesting as showing why any fixed-focus cameras are always "slow" and why they are not made in sizes larger than 4x5; even in the tiny vest-pocket cameras with lenses of three inches focus, if they were set at

the hyperfocal point—as are all fixed focus cameras—with a lens opening of even $F:8$, only objects more than twelve feet distant would be in focus; while with a 5x7 camera and eight inch lens it would be necessary to have a stop of about $F:56$, a useless aperture, in order to have it cut sharp at this distance when set at the hyperfocal. It is for this reason also that cameras in size 5 x 7 or larger cannot readily be focussed by scale; the depth of field of the longer focus lenses being so small that a slight error in estimating the distance results in a hopelessly blurred negative.

This brings to mind another use of the diaphragm—that of nullifying such errors of estimation. For example, if you are to make a view of some object whose distance is uncertain, stop down to $F:16$ and your approximation will probably be close enough; in the same manner when setting the camera for some subject whose distance from the lens is rapidly changing—as in natural history work—do the same thing. This rule, of course, applies only to hand cameras where focussing by scale is necessary.

The intelligent use of stops means more than that, however, for the proper employment of the diaphragm often spells the difference between pictorial photography and straight record work. It has become a recognized fact that the human eye does not see the nearby house and the distant mountain with equal distinctness at the same time; neither does it pick out and distinguish each separate leaf of the forest tree—rather does it show the latter as a mass of tone and color



"A WOODLAND PATH"

Belle M. Whitson

Highly Commended, PHOTOGRAPHIC TIMES' Print Competition.

which the camera translates into monochrome as shades, lights and shadows. Therefore, the pictorialist focusses upon the principal object of his scene—the point which he desires to accentuate—and stops down his lens only enough to show this clearly, leaving the background and unimportant details merged and diffused. This is as it should be, when not carried to extremes, and is quite different from the views of the amateur who "takes" everything with the smallest possible stop and considers his work perfect only when it registers every detail of a square mile of landscape. The one style of photography is art, the other a mere mechanical process.

The studio photographer also finds his stops almost as valuable as the lens itself; in fact his mastery of them supplies the need of many lenses. In his portrait work he knows that the largest stops will give a softness and diffusion the exact degree of which

is within his power to regulate; he is equally certain that the lens which he uses for normal work on his 5 x 7 camera will work as a wide-angle covering ninety degrees or thereabouts on his 8 x 10—but that he will have to stop down in order to fully cover the larger plate.

These things, and many others of a kindred nature, do not apparently concern the average amateur—yet they are worth knowing. Moreover, the beginner should understand that stopping down a cheap lens increases the sharpness and quality of the image; that, because it increases the field of the lens, it will remedy that falling off in definition towards the edges of the plate common to many imperfectly corrected glasses, and that it will give him a greater latitude in the estimation of distances—all, of course, at the cost of increased exposure. But, inasmuch as the classes of work in which exact treatment is



PORTRAIT

Dr. Dwight Tracy

Honorable Mention, PHOTOGRAPHIC TIMES' Print Competition.

necessary—as in architectural work, copying and other branches which will be taken up in later papers—there is no logical reason against a time exposure, this will prove no serious objection. For this reason it is often a good plan for the beginner to make all exposures—except upon landscapes, where the reverse is true—with the smallest stop possible under the conditions, thereby correcting the defects of the lens and at the same time producing negatives which will stand subsequent enlargement.

Certainly it pays any worker to understand the values, virtues and limitations offered by the diaphragm, for

by its use he both enlarges his capacity and his field. In this connection, however, it is well to note that under certain conditions the actual working aperture of the lens is used not as noted on the scale; thus, if a supplementary lens is used or if but one-half of a separate lens is employed, the markings on the original scale are incorrect—this is because such use alters the focal length of the lens system, and the actual apertures can be determined only by calculation. Such conditions are not apt to arise in ordinary practice or at least only when the worker is sufficiently advanced to be able to handle the situation.

To sum up, the quality of the image and the depth of field both depend upon the stop employed; setting the pointer at the hyperfocal distance converts and hand camera into one of fixed focus for quick work; a large opening makes for artistic rendering and a small one for detail, while the

latter also allows greater latitude in the estimation of distance.

Lastly, the continual use of but one stop for all classes of work can be compared to "snap-shotting" every exposure made, whether of the interior of a cathedral or of an athlete in action.



"DREAMY DAYS"

E. D. Leppert

Highly Commended, PHOTOGRAPHIC TIMES' Print Competition.

SIMPLICITY

BY C. B. PARKS.

SIMPLICITY is not only the *key* to better photography, it is the main *eliminator of work, waste, and worry*—the three giant *bugbears* of the amateur.

Where there is so much paraphernalia there is bound to be endless work, and where there are so many different mixtures and other useless conglomeration there is bound to be *waste*, and between these two evils there's plenty of *worry*.

As for paraphernalia—I have been in some dark rooms that it would take a god to tell the use of some of the many “helps” (?) to the amateur scattered around.

Besides the necessary chemicals, very few things are needed. A small 8-ounce graduate is the most convenient size for the worker who only develops plates by the dozen. A thermometer, some scales, a ruby light and trays are all that is needed in the dark-room. The scales used can be the kitchen's scales and the trays can be pans from the kitchen shelf or meat platters and gravy bowls from the side-board.

My hypo tray I am now using is the most convenient I ever used. I have used it for the past four years with *perfect* satisfaction. It is nothing more than a large meat platter with a wreath of four leaf clover in the bottom of it. This same wreath is a great help to me—I leave the plate in the

hypo until the wreath is visible through the plate.

The platter is set on a pencil and is rocked back and forth. I seldom touch the plate after placing it in the hypo, until time to remove it to the wash water, as the pencil allows me to keep the hypo moving and the wreath shows me when the plate is fixed enough.

Now for the chemicals, how to mix them and preserve them when mixed, for in no part of photography is simplicity to be more emphasized than both in the purchase and use of chemicals.

I am a firm believer in taking care of chemicals, so knowing the effect light has on some chemicals, I go to the other extreme and use colored bottles for all my mixtures except the hypo that I re-bottle after using. For some time I could not get the colored bottles, so dipped the clear bottles in melted wax colored blue with ordinary wash blueing.

Hypo can be made up in any amount and will keep without any special caution except keeping it tightly corked. I very much prefer the chrome alum fixing bath for plates, as it stays clear until entirely used up, it fixes cleaner, and it “bubbles” when it begins to wear out.

Never use hypo after these bubbles begin to appear. Using worn-out hypo is poor economy. By mixing it as follows, you will have a good, clean fixing bath:

Thoroughly dissolve one ounce of metabisulphite potash in ten ounces of

water, then add one ounce chrome alum. See that every particle of both chemicals is dissolved. Now dissolve one pound (16 ozs.) of hypo in one pint of water (16 ozs.). After dissolving, let both mixtures stand an hour, then pour the first mixture in the hypo. Pour slowly, stirring the hypo all the time. For convenience I mix in pitchers, then pour in a gallon jug, and keep it tightly corked. Now you will notice that this bath is twice the strength that is necessary, and there's a reason.

One should be very careful that the fixing bath is the same temperature that the developer is, which is not always an easy thing, but I find this the best method for me, as ice is unattainable, and fire is inconvenient in my dark-room.

If the developer is, say 65 degrees, and I find the fixing bath only 40 degrees, I add equal parts water hot enough to bring the temperature up to

the 65 degrees. That is, to 8 ounces hypo I add 8 ounces of hot water. In summer, though, the hypo is apt to be about 80 or 90 degrees, then add 8 ounces fresh cold water to 8 ounces of hypo.

My developer is a three solution concentrated developer, for several reasons: First, in concentrated form it takes up less room, and, second, by using a three solutions I can increase or lessen either pyro, sulphite, or carbonate, thus controlling my negative as I desire.

Small, round, big-mouth colored bottles are the best kind, as they can be easily cleaned with a wad of cotton stuck between the splits of an old-fashioned clothes-pin. Round bottles are easier cleaned than the square ones, and the 4 ounce size is the best size, because they take up less room, and 4 ounces of concentrated developer will last a long time. These solutions are made thus:



"READY TO ALIGHT"

Elizabeth B. Wotkyns

Highly Commended, PHOTOGRAPHIC TIMES' Print Competition.



PORTRAITS

Harriet A. Stover

Highly Commended, PHOTOGRAPHIC TIMES' Print Competition.

A.

Pure water..... 4 ozs.
Pyro..... $\frac{1}{2}$ ozs. ($\frac{1}{2}$ oz.)
Oxalic acid..... 5 grains

B.

Pure water4 ozs.
Sulphite sodium (dry).....1 oz.

C.

Pure water4 ozs.
Carbonate sodium (dry).....1 oz.

For ordinary use in very cold rooms use one ounce of A, B and C to fourteen ounces of water. In hot rooms use about twenty-five ounces of water. If the negative is too yellow use more of "B," etc.

I follow the same plan with the developer that I do with the hypo, viz.: if in cold weather, I add hot water to increase the temperature; if in hot weather, use cold water to lessen it. Fill the bottles full of the solution,

cork as tightly as possible, and dip the whole neck of the bottle in melted wax.

Now, all of the above is necessary, but by far the most important part of simplification in the dark-room is to *label all bottles* fully and carefully. Don't half label them and trust the rest to memory. Write on each label not only the name but the use of contents, then cover the label with a coat of wax.

Every time any solution is taken from a bottle pour it out carefully so as not to stain label, replace cork, and dip again in melted wax, *before opening another bottle*. In this way there will be no coloring nor weakening of any solution. I have used developer handled in this way a year after first mixing it.

Do not ruin a valuable negative by trying to develop too many in a small amount of developer. The safer way

is to have a tray just large enough for two plates to lay flat on the bottom. After placing the plates in tray, *flow* just enough developer over it to cover them, taking care to flow it evenly and completely. Rock the tray for two or three minutes, pour off the developer in a cup or graduate, leaving the negatives *flat* in the tray without the developer for three minutes, then flow the developer back over the plates, leaving them until development is complete. Then throw away the used developer, mixing fresh developer for the next two, etc.

Rinse in two waters and put in the hypo. By rinsing through two waters the hypo is kept freer of developer, and, *I believe*, the hypo lasts longer. The plate, after fixing, is dried on the back with a rag, the surplus water is blotted from the face side with a blotter and squeegee roller.

I do not believe in handling plates any more than is absolutely necessary.

The large bottle for hypo, three four ounce colored bottles for the developing solutions, a small bottle of saturated solution of bromide pot. to use as a restrainer if necessary, and a small bottle of saturated solution of citric acid to remove the stain of pyro from the fingers, all labeled and corked and waxed, and there will be very little waste, no worry, and the work will be only a pleasure.

Try this method six months, estimate



"INTERESTED"

A. R. Brown
Highly Commended, PHOTOGRAPHIC TIMES'
Print Competition.

your savings from it, and invest a part of it in a subscription to an up-to-date magazine of your hobby that will tell you many other methods of simplifying photography.

Every amateur who has ever asked my advice to them on photography has been told: "*Simplify and Read.*"

MORAL

It is easier to simplify than to *work*, *waste* and *worry*.

It is easier to label than to remember.

It is easier to wax the corks than to mix fresh developer.

It is easier to do things *right* and *know* you will get good results, than to use a slip-shod method and trust to *luck* to get good results.



THROUGH WASHINGTON JUNGLES WITH A CAMERA

With Eight Illustrations

BY DR. R. W. SCHUFELDT



WHEN one comes to think of it, our National Capital — Washington — is, in a great many respects, an ideal city for a naturalist to make his home in. In the first place, some of the libraries rank among the largest in the world, containing, as they do, many thousands of works devoted to all the known sciences and pursuits to which man is given. Few cities in the world possess more extensive working libraries, in which, with ease, comfort, and facility, one may consult the literature of biology in all its departments.

Washington's museums are well known,—indeed, so well known that their vast collections need not be touched upon here. Many naturalists, scientific people, writers of all descriptions, and special researchers have made their permanent homes here; and while many of these have formed scientific societies, it is, on the other hand, quite remarkable that Washington is so far behind in the matter of naturalists' clubs. Usually, the excuse given for this is that scientists, residing in the city, are too busy to attend to what a club of any kind commonly entails.

As for the general beauty of our Capital, it is so firmly established that anything one could say in the present connection would have but little weight in the matter of emphasizing the fact.

For several reasons, the rural districts about Washington have, in the majority of localities, largely retained their primitive wildness and their original charm. In short, it can hardly be considered an exaggeration to say that the entire District of



Fig. 1



Fig. 3

Columbia is, in its mileage, ten by ten, one vast reserve, a small portion of which—the Zoölogical Gardens and Park—having been, to a moderate extent, trimmed up by man.

All the wild forms found living in this arena are, more or less, protected by various game-law statutes, and the consequence is that not only have they increased in number, but they have become more or less tolerant of man's presence. All these conditions and factors render the country part of the District extremely attractive to the nature student, who habitually employs the camera in his work.

Our home,—a big, modern, and unusually comfortable house, which my wife and I have all to ourselves,—

although situated in the very heart of the residential portion of the city, is, at the same time, so close to the "jungle" that, in five minutes' walk, we may enjoy scenes similar to the one shown in Fig. 1,—a picture I took last summer with the special object of using it to illustrate the present article. That stream passes within a block of my house; and I have several times seen wild ducks alight upon it, while in its waters and along its shores one may collect sufficient material, in the way of mammals, birds, fish, reptiles, invertebrates, and the like, to furnish food for a dozen books on such subjects. It requires but a glance to appreciate how the normal and natural beauties of such a place have been preserved, and the camera did its duty well when it secured that picture.

With camera and outing outfit my wife and I have tramped over a very large part of this territory, and this summer we intend to devote our attention to still wilder portions of the jungle, into which we have not, up to the present time, successfully penetrated. We were probably discussing something of the kind in Fig. 2,—a result I obtained by pressing the bulb with my foot. This spot is close to Washington, being only a short distance up the Potomac River on the District side. It is a beautiful place for wild flowers in the spring and summer, and one may obtain fine winter scenes there, too.

Close to the city limits one may find no end of such enticing spots as are shown in Fig. 3, and in such retreats nests of not a few of the migratory birds during the breeding season.



Fig. 2

Moreover, the stream contains many aquatic forms of the most interesting sort, several of which form fine material wherewith to stock an aquarium, or place in a vivarium for study.

One day last summer, after the spring birds were all here, and many of them had built nests and laid their eggs, we were passing through just a tangle, when we came across a beautiful example of the nest of the white-eyed vireo, containing four creamy white eggs, finely speckled at the larger ends. It was in the densest part of the jungle, and a very tempting subject for the camera. It did not take me long to make the exposure, and the negative makes a most interesting picture (Fig. 4).

In these wild-lands of the District of Columbia, the explorer entering them at any time except during the cold months, had best keep the fact in mind that the venomous copper-head snake has not yet been entirely exterminated in this region. Only a summer or so ago, while my wife and I were on a camera trip up the banks of the Potomac, in an especially good section for the nature photographer and naturalist, one of these highly dangerous snakes was taken, furnishing me, later on, several valuable negatives. The bite of this reptile when fully grown is quite as dangerous as that of the diamond rattle-snake; and not far from where this specimen was taken, a friend of mine was bitten by a big copper-head, the results of which almost terminated fatally.

At other times we meet with other reptiles and batrachians of various kinds, almost anywhere in the swamps



Fig. 4

and jungles, within ten or fifteen minutes' brisk walk from my house, and these are not only most interesting subjects for study but non-venomous withal. When properly photographed, they are great subjects for the camera, and a fine series of negatives of them now form a part of the animal series of my large collection at the present time. One of my favorites in this line is the elegant little batrachian known as the red triton (*S. ruber*), which, while rarely out in plain sight, may not infrequently be found under stones or rubbish in brooks and streams after careful search. It is a gentle little creature of an intense yellowish vermilion shade, prettily spotted along the sides (Fig. 5).



Fig. 5

Later in the season, or along in the middle of April, scores of plants, shrubs, and trees all seem to flower at once, sometimes almost to the bewilderment of the explorer with his camera, in the fens and brakes of this region, in search of botanical subjects wherewith to enrich his collection of negatives (Fig. 6.)

No sooner has the last remnant of the snow-patches on the rocky hill-

sides melted away—or sometimes even before this—than we have that well known harbinger of spring, the lovely trailing arbutus, in bloom in such localities—principally in shaded places in the pine and oak woods; scores of jack-in-the-pulpit suddenly appear, the spathe in some being pale green, in others a rich brownish purple, elegantly striped. Wind-flowers or wood anemones, with their delicate,



Fig. 7



Fig. 6

sparkling white blossoms, peep up everywhere at their usual sites, while the mandrakes and skunk cabbages are also among this early botanical display. Then there is that delicate beauty of the hillsides, the exquisite blue lupine, with its rich little pea flowers, some of purple, and some of a shade of purplish blue, while not a few are of a violet tint. Their leaves are among the most charming in nature; and if one who is fond of wild flowers ever sees a patch of them, the sight is not easily forgotten (Fig. 7). They have almost a tropical appearance, and invariably remind me of certain plants I used to see in the dense and heated swamps in Cuba and Mexico, long before I knew anything

of even rudimentary photography. Indeed, it would make a long list were I to attempt to enumerate the hundreds of wild flowers that render nearly every part of the jungles of Washington, in spring and autumn, one of the most beautiful regions on the eastern slopes of the Alleghanies.

It is a wonderfully rich field for the nature photographer, and the charm of it is that, comparatively, so little is known of the thousands of animal forms that are to be found inhabiting it; as for photography, not one in many hundreds of them have ever been the subject for it. To some extent, this may also be said of the botany of the region. Comparatively speaking, it is not so many years ago that the late Prof. Lester F. Ward discovered a *new oak* in the District, and he was of the opinion that a number of its plants were, at that time still unknown to science. Prof. C. V. Riley once informed me that the same thing applied to the insects; while on the other hand, explorers of recent decades have probably about exhausted the vertebrate fauna of this part of our country. However, many of the habits of the now well-known forms stand in need of more thorough examination,—take, for example, the common snapping-turtle (Fig. 8). How little we really do know of the breeding habits of such species, and the camera is sure to bring to light a good deal in their general appearance not heretofore fully appreciated. The time is near at hand, I think, when more nature-camerists will enter these Washington jungles for subjects, for the field is a most enticing one.

Last winter I started up a big wild rabbit in the snow, not over six hundred feet from my front door; and at four or five times that distance, in a little different direction, a large, wild racoon was taken one night in an ordinary racoon trap. Muskrats still live in the stream at the foot of the hill on which my home stands (3356

Eighteenth Street); and not so many years ago I shot a big eagle not a mile from the dome of the Capitol. Others are still to be seen occasionally in the same locality. True, the Indians have all disappeared, but a few of their "ear-marks" are still in evidence in the environs of our National Capital.



Fig. 8

TWO KINDS OF PAPER THAT CAN BE MADE BY THE AMATEUR

BY ALFRED J. JARMAN

THE amateur photographer is at all times interested in a process whereby he can carry out the work with all its ins and outs, and thus become a thorough master of such process, especially if it proves in the end to be of real artistic value and shows that skill was required for the production.

The preparation of photographic papers with washed gelatine emulsions cannot be carried out perfectly by hand coating. Collodion emulsions can be carried out by hand, because the underlying conditions are different.

The formulæ given here have been used by the writer, and by others for coating paper with success, and if any one is desirous of preparing a paper that is not surpassed in quality for making either portraits or views the formulæ given here will meet every requirement. The first formula is for one albumen coated paper, *not* matt, niether is it glossy. It gives a semi-matt surface, very much like some of the collodion papers that are upon the market, as to the resulting color of the finished print, any color may be obtained from light brown, sepia, dark brown or purple brown, or with a special platinum toning solution, a rich brown black may be obtained.

The second formula will enable prints to be made upon almost any

kind of paper, post cards, and mica. The prints that are made by this formula may be toned or not. Almost any color may be obtained to suit the taste of the operator.

The papers suited for the first formula may be obtained from many photographic stock dealers or artists' colormen. The first kind is in sheets 18x22, and costs about fifty cents per dozen sheets. The second kind may be purchased from an artists' supply house by the yard, under the name of lade paper. The third is known as "angora white." It is made by the Whiting Paper Co. of Holyoke, Mass., New York and Philadelphia. The size of the sheets being 21x33. In the case of the second formula, many kinds of bond paper may be used in addition to the papers named. The chemical constitution of albumen differs in its component parts from gelatine and many other colloid bodies.

CHEMICAL COMPOSITION OF ALBUMEN

Carbon.	55	per cent.
Hydrogen.	7	"
Nitrogen.	16	"
Oxygen.	21	"
Sulphur and phosphorus. . .	1	"

This natural composition may account for the beautiful results obtained by its use in photography. To surface the paper, the following preparation must be made, and allowed to stand for twenty-four hours before use, or forty-eight hours. No decom-

position sets in during this lapse of time; in fact, the preparation is in a much better condition for surfacing the paper at the end of thirty-six hours or forty-eight hours than at the end of twenty-four.

SEMI-MATT. ALBUMEN SOLUTIONS

Chloride of ammonium

(C. P.) 1200 grains
 Distilled water. 5 fl. ozs.
 Albumen from fresh eggs. 15 fl. ozs.

One egg averages one fluid ounce of albumen. The albumen must be well beaten with a good silver plated fork, or a silver fork, together with the distilled water, when the chloride of ammonium may be added, and the mixture shaken up vigorously in a clean wide-mouthed bottle. This shaking should be carried out several times during the time that is required. To bring about complete incorporation, one hundred grains of common salt may be added to one hundred grains of chloride of ammonium, instead of the total of two hundred grains of the latter salt, the result being that the image when printed will be more red in color than when the ammonium salt is used entirely, the latter salt giving an image inclined to purple. As soon as the albumen surfacing liquid is ready, it must be strained *twice* through a four-folded piece of washed cheesecloth, suspended over the top of a small stoneware pitcher, then poured carefully into a clean tray about 10x12 in size. If this solution is poured against a flat glass strip into the tray, it will prevent air bubbles being formed. If any are present, take a strip of clean, stiff paper, and draw it edgewise over the surface, so as to draw all bubbles to

one end of the tray. Then by scraping up the end the bubbles may be easily wiped off.

Having the paper cut, say 8x10 size, mark the back with a slight pencil mark; take the sheet of paper by opposite corners, then gradually lower the center down upon the liquid. If there is any tendency to curl, breathe upon the edges of the paper with a hollow, damp breath; the paper will soon lie flat. Or a wood clip or two may be placed upon the back of the paper to hold it until enough moisture has been absorbed to cause it to lie flat. Allow the paper to float for two or three minutes, in fact, when the paper lies quite flat, it has received a sufficient coating; it may then be lifted at one corner and clipped with a wood clip, and suspended away from dust to dry. Prepare as many sheets of paper in this way as required, because when they are dry they will keep any length of time before sensitizing, and place them in an ordinary printing frame upon a sheet of glass under pressure to keep them flat.

SENSITIZING THE PAPER

Make up the following solution with distilled water:

Purgitallized nitrate of silver. 4 fl. ozs.
 Distilled water. 20 fl. ozs.

As soon as the nitrate is dissolved, which may be aided by stirring with a glass rod, add two ounces of pure alcohol, stirring the liquid well during this addition. This liquid should be filtered through a plug of absorbent cotton, in a glass funnel, then poured into a tray kept for the purpose and the sheets of paper floated, face down, upon this solution for three minutes.

The paper will float with more freedom upon this than it did upon the albumen. One corner should be lifted to see that no air bubbles are formed, if they are, just stroke them once with the tip of a glass rod dipped into the liquid. At the end of three minutes lift the sheet by one corner, clip it as before at the end, let it drain for a short time, then suspend it to dry away from strong light. All these operations may be conducted by gaslight, or an 8 c.p. incandescent lamp. As soon as the sheets have all been prepared, they should be kept as before under pressure until required for use. Used sensitizing solutions may be returned to the stock bottle for future use, adding a small quantity of a strong solution of nitrate of silver to make the sensitizer up to standard strength.

PRINTING THE IMAGE

Printing the image may be carried out in just the same way as for all kinds of printing out paper, the depth of printing being carried somewhat deeper than that required for a finished print, and the toning of the image may be conducted with any of the widely used gold toning solutions, either the borax bath or the sodium acetate, the latter bath giving the best results. For the benefit of those who are not acquainted with this toning bath, the component parts are given here:

TONING SOLUTION FOR ALBUMEN PAPER

Water.....	16 fl. ozs.
Bicarbonate of soda.....	10 grains
Acetate of soda.....	60 "
Chloride of gold.....	3 "

Add the gold last, shake the mixture well and let it stand for twenty-four hours before use. Rich colors

may be obtained with this toning bath. After toning, the prints must be washed in two changes of water, then fixed in a solution of plain hyposulphite of soda, four ounces in twenty of water, then washed well for an hour, dried, trimmed and mounted.

NO. 2 FORMULA

With this solution the paper may be coated with a flat camel's hair brush, dried moderately rapid, then used for printing. Paper prepared with this solution keeps well, when packed in a printing frame on glass, and kept under pressure, away from the atmosphere as much as possible.

SEPIA IRON SENSITIZERS

A.

Distilled water.....	5 fl. ozs.
Ammonia citrate of iron, green scales.....	400 grains

B.

Distilled water.....	3 fl. ozs.
Nitrate of silver.....	80 grains
Tartaric acid.....	80 "
Gelatine.....	60 "

Dissolve the gelatine in the citrate of iron solution by allowing it to soak for half an hour, place the bottle into warm water, until the gelatine dissolves; then add the acid nitrate of silver, shake the mixture and let it cool down. As soon as cold it will be ready for use. It will, however, improve as a sensitizer if allowed to stand for a couple of days. The solution will then thicken slightly; this will prove of no consequence. The solution is applied by dipping a rubber-set flat camel's hair brush into a small quantity placed in a graduate or tea-cup—either forms a good resting place for the brush between times of coating, as well as providing a good

edge to wipe the brush upon so as to rid it of an excess of liquid.

The papers mentioned for albumen may be used, also bond paper, and post cards.

The most convenient way to coat paper and post cards with this solution is to place a piece of clean blotting paper upon the work bench or table, or upon the top of a clean glass plate, hold one end with the fingers of one hand, or use a wood clip. Then apply the liquid first lengthwise, then crosswise so as to give an equal surface, then suspend the paper or post card where they may dry quickly away from light. In the case of post cards, it will be found advisable to employ a black paper mask upon the negative, printing the picture in the center. The object of this is to prevent the imperfectly sensitized edges from showing the brush marks.

PRINTING THE IMAGE

The printing upon paper or post cards with this preparation must be carried only to a slight extent, somewhat like sepia platinum paper, because as soon as the printed image comes into contact with the developing agent, or with water, it will develop almost instantly to nearly the depth required. Either of the following developing solutions may be used with complete success:

DEVELOPING FORMULA NO. I

Hot water. 8 fl. ozs.
Sodium phosphate. 2 drams
Potassium oxalate. 1½ oz. av.

Stir the mixture well, use when cold.

DEVELOPER NO. 2

Hot water. 16 fl. ozs.
Rochelle salts. 1 oz. av.
Potassium oxalate. 1⅞ oz. av.

This developer will give prints of a decided light brown, while the No. 1 developer will give a much darker print. This developer like No. 1 must not be used until it is quite cold. Either of them can be used many times over, requiring only a little fresh solution to be added occasionally, in fact the solution works better after being used several times.

The full color and development does not become complete until the prints have been placed into the fixing bath; here the color becomes still deeper, and rich in brilliancy. If the print has been made too deep in the first place, it will become over-developed in this fixing bath.

FIXING SOLUTION

Water. 25 fl. ozs.
Sulphite of soda (dry). ½ oz. av.
Hyposulphite of soda. ½ oz. av.

The prints must be watched when in this solution, because at first they develop to a certain extent, and in the course of a few minutes they will commence to lighten up. This effect indicates the right time to remove them, the print now being fixed. When bond paper is used hold the print in front of a gas jet or incandescent light; if an specks appear, return the print to the solution. As soon as these disappear the print is fixed, when it may be well washed and dried and trimmed for mounting. The sensitizer will keep for two weeks in good working order.

SOME ADVANTAGES OF THE SMALL CAMERA

BY A. E. SWOYER.

NOT so very many years ago when the photographer took the field he was forced to carry possibly fifty pounds of apparatus; as in those days nothing much smaller than an "8 x 10" was considered of any value whatever, the weight of camera, tripod and a dozen or so loaded plate-holders was enough to tagger any one less husky than a Sandow. Imagine, then the burden of a man like Monson, who made his celebrated photographs of Indian life hundreds of miles from civilization, and who was forced to carry with him by means of pack animals or by hand the supplies necessary for months of work.

Today all this is changed; the amateur simply drops a tiny camera, like any one of a dozen models, into one pocket and stores innumerable dozens of films in another—even if he prefers the plates with which these cameras work interchangeably, the weight of three months' supply will be but a few pounds; surely an important item on the vacation, when travelling light on an exploring tour into the wilds or even when journeying abroad. His negatives may be developed *en route*, if he so desires, by the use of a tank and upon his return he can make enlargements from the tiny films every whit as good in quality as the contact prints he might have made by the use of a camera of large size.

While easy portability is naturally

the first advantage of the small camera to appear to us, it has other virtues even more important. For example, there's the cost of materials—and if you've ever tried to support a large camera in the style to which it is accustomed, you know what "cost" means. For instance, figure the little plates used by the vest pocket cameras in the medium grade, priced at 18 cents per dozen, against even so moderate a size as the 5 x 7 at seventy cents—you can make four exposures with the small camera for the same money as you can make one with the larger box. It's the same way with other supplies—paper at seven cents per dozen as compared to seventeen cents per dozen, and so on; they all count, particularly when you happen to spoil a plate or when some million friends all want you to take their pictures and furnish free prints for themselves, their cousins and their aunts.

Frankly, neither their portability nor their economy of operation should cause the serious worker to use the small camera unless it produced results at least equal to those of its larger brothers; it not only does this, however, but it will in addition be better under certain conditions, and it will often secure for its owner a photograph which would be lost were the old "Long Tom" the instrument to be depended upon.

For example, it is an axiom that the best scenes or happenings are in-

variably stumbled upon when we have left our camera at home; it's appalling to think how many masterpieces have been lost to the world from that cause alone! But while there is some excuse for not lugging an eight by ten along with you whenever you stir abroad, there is scant reason for omitting to drop the little "V. P." into your coat pocket, and as some one has said, "confine the entire landscape to your vest pocket."

Again, suppose you have been thoughtful enough to burden yourself with your big camera, and are staggering jauntily along under its weight when a runaway comes dashing around the corner; you will indeed have wonderful powers if you can induce it to stop long enough for you to set up your tripod and get your head under the focusing cloth. Or suppose

you are in pursuit of street scenes and to that end have erected your instrument upon a suitable spot and are only waiting for the correct actors to enter upon your stage setting; to say nothing of the time wasted by having to go through this process at every step, and thus waiting for your pictures to come to you instead of going out after them as a true hunter should, you will find—even should someone fail to fall over your tripod in the meantime—that your view consists solely of an assortment of newsboys bent on having their "pichers took" and grouped attractively against the very glass of your lens. Or let us imagine that some celebrated or well-known character approaches your field of vision; you will be indeed lucky if he doesn't shy off like a skittish horse when he sees you sighting at him over your



"MOTHER AND KID"

Wilson I. Adams

old single-barrel. Yet in each of these cases the little camera would have done the trick, either because it was all ready to go into action on a moment's notice or because it was so unobtrusive that no one but yourself knew that a photograph was being made.

Another advantage of the very small camera over even those capable instruments, the roll film cameras of slightly larger size, lies in their being of fixed focus so far as ordinary work is concerned; hence they may be operated without the bother of focusing and with no danger of spoiling an otherwise perfect picture by the incorrect estimate of distance. It not only means greater quickness but certainty of action, as well. Then, too, this factor of universal focus means a greater depth of field; that is, the smaller the camera the greater will be the sharpness of both near and distant objects in the same negative. These things may not be so important in the small contact print, but when it comes to enlarging, any lack of sharpness in the original negative is a serious drawback and will probably make any great increase in size possible.

Another point is that of speed; the same shutter speed on a small camera will enable you to take pictures of objects moving several times as fast as would that speed on a larger instrument. This may seem odd at first, but is easily explained. Suppose that you were taking a photograph of the same moving object with two cameras, one four times the size of the other; the image on the larger plate would then be four times as large as that on the smaller—and any move-

ment which it made during the opening and closing of the shutter would bear the same relation. It is then apparent that if a shutter speed on the small instrument of one-one-hundredth second barely sufficed to show the moving object without blur, to do the same thing with the larger box would require an exposure of one-four-hundredth of a second. Closely allied to this is the fact that in two such cameras both fitted with lenses working at the same aperture, the smaller lens will be the faster; one reason for this is because of the shorter distance between the lens and the sensitive plate. Without going into the technical reasons for these facts, it is sufficient to say that a "vest pocket" camera fitted with a lens working at F6.3 and a shutter speed of $1/250$ of a second is nearly as efficient in obtaining sharp pictures of moving objects or for photography in dull lights as a 4×5 would be if fitted with an F 4.5 lens and a shutter of the same type, but with a speed of $1/1000$ second. This means great economy both in money and in bulk, since the size and cost of both lenses and shutters increase with their speed.

While these atomic instruments will produce negatives from which pleasing contact prints may be made, it is in enlargements from such negatives that their true value is apparent. A few years ago there might have been some question as to the possibility of enlarging such small images to any great degree because of the consequent loss of definition; today all such arguments may be refuted by a simple reference to the moving picture screen. There we see images but lit-

tle larger than a postage stamp magnified many hundreds of times, and if the hypercritical state that in them there is a diffusion which would be fatal to a print, it is only necessary to remember that nowheres near such a degree of enlargement is required by photography, even were sheets of bromide paper six feet or more square readily obtainable.

The final point is that of the cost of the small camera; these instruments of vest-pocket size may be obtained from, say, six dollars up. It is obvious that in the cheapest of these instruments the lens equipment is not capable of giving an image which it is possible to enlarge sharply. The better grades of these little instruments are fitted with the fast shutters and lenses, and it is with these that the highest possibilities of hand-camera photography may be brought out.

Probably about this time some of you have turned to the price lists in the catalogues, and have found that

such a camera as I have described costs in the neighborhood of fifty dollars, or more—some money. But consider that this represents the best lens and shutter equipment that money can buy—to do work equalling it with your 5x7, and forgetting its other inconveniences, you would have to equip the latter with the same grade of fittings. Then turn to the price list of that same lens in 5 x 7 size, and you will find that the lens alone exceeds in cost your complete “vest pocket” outfit.

In lauding the small camera no attempt is made to decry the larger boxes; they have their place, and the studio man, the commercial photographer and many others could not do without them. Their place is not, however, in the equipment of the hunter or of the traveller, nor should they constitute the sole outfit of the amateur of any class. In short, for a pocket chum—easy to operate, inexpensive, efficient and always ready—it's hard to beat the little camera.

EXPOSURES FOR INTERIORS

BY PAUL W. EDDINGFIELD

IT is not such a hard matter to ascertain the exposure from an out-door subject; exposure meters, tables, viewing the image on the ground glass of the camera, or even guess work, will, in the majority of cases give us very good results. But when it comes to the exposure for interiors, it is an entirely different problem. The beginner, with his first camera, makes snap shots of his

friends outdoors in sunlight and secures results that please *him*, at least; he feels that he has learned the photographic trick; so he rushes to the task of photographing his friends indoors. He makes snap shots of them, (he has a snap shot camera, you know) sends the roll to the finisher and has six nice white pieces of celluloid returned, with no prints. He has learned his first photographic golden

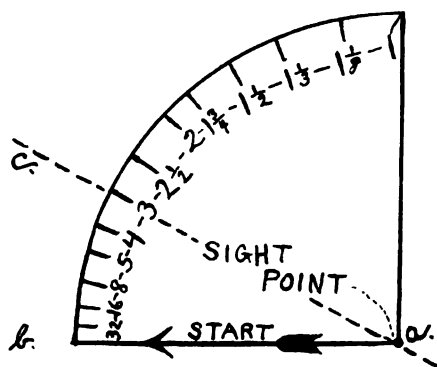
rule: *You cannot make snap shots in the house*, (that is with a two-dollar camera). Taking the advice of a photographic friend, he makes time exposures, by guess; this roll also proves to be a failure; so he gives up the whole thing as a bad job.

The professional has to secure results under *any* and *all* conditions, so let us see how he manages the situation. He finds some exposure tables in his photographic papers, dry plate manuals and text books; gives them all a trial only to find them very inaccurate under the varying light conditions of interiors. Exposure meters, which use sensitive paper, are given a trial and are found to be accurate, but it often takes too long for the paper to tint before you can ascertain the proper exposure to give. Disgusted with them all, he uses the old method of gussing, using several plates, giving different exposures to each and trusts to luck. If he has practiced this for a long time, and the new conditions are not too strange to him, he will get passable results.

But what we need is a practical, scientific method that will give us the correct exposure under all conditions with which we meet in our photographic career; and I believe I have this method. I have tested it for two years and have found that it reaches my highest expectations. I will endeavor to make it as plain as possible to both my amateur and professional readers.

First make a copy of the drawing reproduced with this article, leaving out the straight dotted line and the letters, A, B, C. Your copy may be larger or smaller than the line etch-

ing, but the proportions must be kept exactly the same. It may be copied on pasteboard or any other material. This is your exposure meter.



A person that is being photographed out doors has the sky line from the horizon to the zenith in front of him and on each side, besides the light that is reflected from the ground. I do not speak of the light behind the subject because that does not help in reproducing detail in the camera side of the subject; in fact it often hinders. The same light that falls on this person standing out doors would fall on that person if he were in the house, only there would be a smaller per cent. on account of so much of it being barred by the walls and ceiling of the room. My meter measures the per cent. of this light that is permitted to reach the subject indoors.

Calculate what the exposure would be if you were photographing the sky itself, using the stop or diaphragm and plate or film that you wish to use when you photograph your indoor subject; multiply this by eight and mark it, "Exterior Exposure." Enter the house and decide where you will place your subject. The exact location of your subject will be the place

to stand while using the meter. Where there is no special subject, as in photographing a room interior, the meter should be held in the darkest part of the room in which detail is wanted. The distance of the meter from the floor makes a great difference, in a great many cases, in the results you will obtain. In the case of a portrait the meter should be held at the exact location of the face of the sitter.

Take the meter and place the right angle corner of it, marked: "Sight Point," under one of your eyes and close the other eye. Move the meter in such a way as to make the arrow (marked: "Start") point at the left hand side of the window. When it so points, hold the meter perfectly still and move your eye till you are looking at the right hand side of the window and make a note of number that is in line with this side of the window. This is called the "Meter Sight Number." Example: Suppose you are in a room, nine feet from a window that is six feet wide. You would let A B point at the left side of the window and line A C point at the right side. (See illustration.) The "Meter Sight Number" would be three in this case.

Repeat the operation for the top and bottom of the window. Find the product of these two "Meter Sight Numbers" and multiply this by the "Exterior Exposure," previously referred to in this article. This gives you the exposure for an average indoor subject, one window with no glass in it, unobstructed sky only showing out doors, and a flat light on the object. If you have conditions

other than these you will have to make slight variations.

If there is ordinary clear, clean, white window glass in the window, multiply your exposure by two.

In the case of portraits use a reflector and multiply the exposure by the number opposite the lighting you use: Plain Portrait, 1; Rembrandt, three-quarter, 2; Rembrandt, profile, 4; line lighting, 7.

The following are the multiple numbers for various subjects: Light walls and furnishings in rooms, $\frac{1}{2}$; average walls and light-complexioned people, which includes most women and children, 1; dark walls and average-complexioned people, which includes most men, 2; dark machinery and very dark-complexioned people, 4. If you copy photographs about the same size, or larger, you will have to make allowance for this.

If there should be two windows the same size within an angle of 90 degrees, you should only give half the exposure, etc.

In finding the "Exterior Exposure" use the method I have given previously in this article, if the sky is all that the person who is being photographed can see; but if the sky is obscured by a building, or other object, find what the exposure would be for this object and multiply this by eight, as before, and use this as the "Exterior Exposure."

In order to make this system as plain as possible, I will give two examples, as follows: Subject is an average room interior; size of room, fifteen feet square; one window only used, size $2\frac{1}{2} \times 4$ feet; view show-

THE PHOTOGRAPHIC TIMES

ing through window is large brick building; Dec., 2 p. m., diffused light, stop U. S. 32 (F.22). The exposure for the brick building was $\frac{1}{2}$ second and this multiplied by eight gave four as the "Exterior Exposure"; the "Meter Sight Number" for the sides of the window was eight, and for the top and bottom of the window was five. $4 \times 5 \times 8 = 160$. There was glass in the window, so the 160 was multiplied by 2, making the exposure 320 seconds, or $5\frac{1}{3}$ minutes, which would be correct under these conditions.

Home Portrait Example: A small child close to a window; sky furnishing all of the light; side light on the face; stop U. S. 4 (F.8). The ex-

posure for the sky was found to be $\frac{1}{256}$ second. So the "Exterior Exposure" would be $\frac{1}{32}$ second. ($8 \times \frac{1}{256} = \frac{1}{32}$). The "Meter Sight Number" for the sides of the window was two, and for the top and bottom was one and one-fourth. $\frac{1}{32} \times 2 \times 1\frac{1}{4} = \frac{5}{64}$. There was window glass in the window so this would increase the exposure to $\frac{5}{32}$ of a second. Owing to the lighting this would be further increased by $\frac{5}{16}$ second, $\frac{1}{4}$ second would be found correct.

This method sounds very complicated, but in actual practice it will be found to be quite the contrary. Give it a fair trial and be convinced.



"AN AUGUST DAY"

Floyd Vail

BETTER PHOTOS

BY FELIX J. KOCH

"YOU are free to copy it all, if you wish," he enthused merrily. "No patent, no copyright;—*'pro bono publico'*—to any and all who may desire."

Then he stepped back and looked at the long, aluminum case,—black-painted, over all,—almost reverently; as he proceeded to tell of some of the battles it had helped him to win.

Roosa's pictures, taken often under most trying and unexpected circumstances, are so good, all of them, that Rendigs—uncontrollable always,—had ventured to ask how *it* happened that Roosa always happened to have just the thing needful along, at the opportune time. Whereupon, Roosa had mentioned the old maxim of 'eternal preparedness';—and when Rendigs took up the counter-challenge, that then a man might walk around with a photographic dealer's establishment, well nigh, tucked about him,—Roosa replied, with decision:—

"That's about what I do *DO!* Carry everything I expect to need by remotest chance!"

Naturally, we demanded explanations,—and then Roosa produced his 'kit', as he called it. Just a neat, long, black photographic-kit, from without;—inconspicuous, as among tourists, particularly these days, when people so largely carry cameras and camera-holders.

"You see," he explained, illustrating point by point with the carrier,

"I hadn't indulged in amateur photography a very long time before I discovered that no matter how much one tucked about him, on his outing, he was sure to need just the one thing he had that day left at home.

"I would venture to say to 'snapshot' birds on their nests,—'have my tripod, my telephoto,' my spy-glass. Lo, along would come a farmer;—watch,—get interested;—invite me to a seat in his wagon to go out and see a hawk's nest on his place;—take me in to his sitting room;—and there would be the chance of the most attractive flashlight you could desire!

"Again, I would start out on a rare June day,—after 'snap-shots' of children,—playing out-doors. Suddenly it would 'blow up,' and the clouds scurry across the sun,—and my tripod be ten miles off, at my home!

"Not to bore you with a dozen similar illustrations, I soon became convinced that to get all you wished for your outing, you must be prepared.

"Therefore,—the case!

"The basis for its measurements was, of course, my camera.—a four-by-five box-size. I like this because its the largest size allowing of loading in daylight—an indispensable feature, to my mind. Well and good,—here, in the upper, right-end compartment,—the most accessible of all, as the case hangs on my shoulder, is the camera;—in a little compartment to itself, so that I may lock all the rest and yet have it, free to hand.

"Now, again and again, no matter how great your expectations, you're apt to run into things you didn't anticipate and you want some more plates, or films. In my case, being films, I arrange accordingly.

"In this long central compartment,—the height and depth of the camera cubby and perhaps twice the length of that,—you will see I have a number of compartments. That is simply to keep things from mixing;—from breaking by shaking,—and to facilitate finding. This one section, you'll note, holds six spools of film,—which with the spool in the camera, means seven spools, or seventy negatives available for instant use. Hardly any day when,—between chances at your trunk, or dealer,—you'll use that many negatives now.

"But, or the picture-taking, different situations require different treatment. To begin with, all pictures won't be shap-shots. For many you'll need a tripod. Therefore, I bought a small folding tripod, placed it under the camera's compartment;—made a cellar, so to speak down there;—and put it inside.

"With cloudy days,—when many pictures are best to be taken,—one may expect rain, and I don't want fear of a drenching to drive me home, from my 'cloud effects' all the time. So I bought a folding umbrella;—put that in the 'cellar' next the tripod;—and the two, divided by watertight compartments, occupy the basement of the case.

"To get back now, to the main upper compartment;—in one section of which are the extra supplies of film.

"Here is a little drawer—running

'cross its center. In it are lenses;—there's a portrait lens, for people;—there's a ray-filter, for cloud effects. Then, here's a woman's folding curling-poker,—strange thing to carry, but it's the smallest, practical holder for flash sheets I've yet run across. Here, off by itself, is a packet of flash sheets,—30 sheets always kept in stock; more than one could possibly need at one setting out. Here's an aluminum match-case,—in case I run out of matches from pockets or other usual source of supply. And here's a pair of the very thinnest, lightest skin gloves,—most loose-fitting,—to slip on when I take a flash. I had a 'back-fire' on a flash once, that burned my hand sadly,—since then, it's a work of a moment to slip out gloves, whip out and open curling poker, place the flash-sheet in this, light . . . and it's done!

"Now, to continue:—An auto-graphic camera has its advantages, but, often you've not time to write titles plainly; or you're in a jolting vehicle, or something of the sort. So here is a fountain pen, always filled; extra bottle of ink, (unbreakable this is);—pad of rough paper, for crude notes; pad of fine paper, for transcribing these to keep on, in odd moments, when waiting train or boats.

"Here, up above, is a spy-glass; a microscope; a compass;—all these help one in finding interesting things, while out after pictures.

"Here's a lunch-box, always filled with hard crackers, chocolate, such like, that one need not spoil the stomach, by going without meal, now and then; or else sacrifice pictures, for the sake of a meal.

"Here's a non-breakable flask, with some beverage or other, that, when one is thirsty, he need not stop and search for a drink.

"You see,—starting out with this case,—I am ready to go twenty-four hours,—rain or shine,—wherever you will,—without stopping for anything you can think of. Down at the bottom is a stiff wire-brush and a comb, a wee traveller's clothes-brush. Thus I become presentable, when need be. In other words, I might almost make my toilet, *en route*;—breakfast;—find my way . . . for I've a map of my state and county here, in a compartment at rear. I've postage stamps, letter-heads, envelopes,—and can write home if I must. I've umbrella, tripod, ray-filter for dark days! I've what I need for bright; I've plenty of film, plenty of flashes,—paper to record what I've done and where;—food and drink along.

"And here's the point,—I keep

them all complete and full;—as for instant notice.

"When, today, I use up a film, I jot that down on a bit of the paper;—put this in the pocket where my hand must strike it first time it goes in, for change. That says: 'Buy a film,' or 'two films'—and I do, very next day, on returning. If I eat of the food,—drink of the drink,—next day that is replenished. As a result, on moment's notice, I can pick up my box, sling it on my shoulder and be off and away!

"Therefore, I am ready at all times, for all kinds of pictures.

"Here, for example. . ." and then he turned to a child feeding swans, off at Birmingham, England;—to some sheep inside Kenilworth;—to the quaint old beadle and Ely. . . and then, on and on, among pictures of Europe's war-zone,—many, if not most of which, would have been lost to him, had he not been so completely prepared!"

FUTURE DEVELOPMENT OF MOTION PICTURE PHOTOGRAPHY

BY ERNEST A. DENCH

CINEMATOGRAPHY has just passed its twenty-second birthday, the first public demonstration of the new craft having been given at the World's Fair at Chicago in 1893.

This sturdy youngster has made much progress since that time. With all this advance, however, it cannot anywhere near approach the perfect-

ness attained by still photography in all its many branches. One could not expect the situation to be otherwise, for photography possesses all the advantages of age, which stands for experience.

It is not as though motion picture photographers are oblivious to the shortcomings of their art. The motion picture, because of its peculiar na-

ture, stands in a class distinctly of its own since it has introduced new problems to be grappled with.

At first glance they may not seem details of any real importance, but when it is realized that they are hampering the progress of the newer art, the seriousness of the situation can be fully realized. Lofty critics assert that the photoplay is but an ingenious mechanical contrivance, and not a regular dramatic art like the so-called legitimate drama and vaudeville.

While they agree that it has produced a new style of acting, when questioned, they base all the defects on the photography end, on which, of course, is what the effectiveness of the whole depends.

That films lack color is only too glaringly apparent. There has been endless color processes put on the market, but all have been so impracticable that the ordinary black and white picture is still far and away the best.

While the motion picture enjoys an advantage over the legitimate stage in the all important matter of natural backgrounds. In all fairness, however, it must be admitted that life is imparted to the theatrical productions by color lighting. Looking across the horizon, I feel sure that color cinematography will be perfect some day, for a multitude of inventions working towards the one goal usually precede the genius who hits the mark.

Some are inclined to denounce the coloring of films on the grounds that it is not only artificial but because it does damage to the film stock the picture is printed upon. In my small opinion, either some effective way of

taking the films in their natural colors by the same method as the black and white productions of today will be discovered, or else the motion picture screen will be enveloped in a sea of varied changing colors, the whole process being worked from the operating chamber.

The average visitor to the motion picture theater may not notice the flatness of the photoplays, but if he sits down in one of the front rows, which he avoids for this very reason, the players seem to be several times larger than their normal size, while to look at the screen makes you feel as though a high wall loomed up straight in front of you. Then comes the strain on the eyes.

Stereoscopic cinematography is the very thing to obviate this big fault and impart a picturesque suggestion of depth, no matter whether one views the screen from the front row or the one at the far back of the hall.

There has been quite a lot of ink spilt and breath wasted in advocating the value of motion pictures for preserving present day events so that posterity will benefit by our thoughtfulness. But these folks who have not relied upon mere theory have stored film negatives and positive copies in vaults for as short a period as five years, at the end of which time they have found them so covered with fungus growths that even the negative itself was beyond use for the taking of additional copies. What is wanted is some one to invent a more durable and lasting material for the film negative.

There must also be a device to prevent the camera man photographing

too slowly or quickly as the case may be. This is unintentional on his part, but there is little excuse for the theater operator, who can always watch his work on the screen committing the self same sin. One must not be too hard on him, though, for in nine cases out of ten the motion picture exhibitor is faced with the problem of a full house and others waiting outside for admission. So he orders his operator to shoot his reels through as quickly as he can. This not only annoys the audience, who naturally object to their entertainment being hustled, but also considerably shortens the life of a film by such reckless treatment. If the operator could not possibly go beyond the normal speed it would put an end to this practice.

The authorities throughout the

country are remarkably strict in laying down the regulations for private motion picture theaters such as the cinematographer must, of necessity, have. To subject these shows to the same principles that govern the ordinary photoplay theaters is nothing less than a gross imposition.

We should take a leaf out of the book of the French government which passed a rule some time back compelling the motion picture manufacturers to use non-inflammable film exclusively.

This brief survey will show just in what directions improvements may be expected, proving incidentally that the cinematographer with an inventive frame of mind has an especially rosy time before him if he can produce the goods.



"IN CAMP"

R. R. Sallows



CURRENT EVENTS *and* EDITORIAL COMMENT

THE number of plates and films exposed during the summer season on seaside subjects probably constitutes a very considerable proportion of the year's grand total. Nevertheless, it is quite the exception to see a really satisfactory picture, either technically or pictorially. There are so many little factors that may step in that a bare list of them would make a formidable array. Happily, many only occur somewhat seldom, but their infrequency makes them all the more puzzling to the tyro. Sun glare or strong sun or sky light falling directly on the front glass of the lens is one leading cause of general fog. The remedy, or rather prevention, is an efficient lens hood or sky shade. But as strong light may be reflected upwards from the water a top sky shade is not the universal protector that it is so commonly supposed to be.

When at work on or near water it may be forgotten that this water is acting as a vast sky reflector, and hence grave over-exposure is by no means uncommon. When near dark costumed figures are taken against a bright water background the extreme range of light and dark is likely to be outside the possible range of the plate, so that we are between Scylla—under-exposure of the darks—and Charybdis

—over-exposure of the high lights. Usually the water background is quite unintelligible, or the figures flat black silhouettes. Misjudging distances accounts for a large proportion of failures. Few realize how distances seen over water, and especially tolerably calm water, seem to be very much shorter than they really are. In rough weather fine particles of water, salt, or sand may be blown on to the surface of the lens, and prevent a satisfactory image being formed on the plate.

In the same way the easy working of the shutter may easily be interfered with, to the spoiling of our plates. On the pictorial side the commonest fault of all is the overcrowding of the plate with far, far too many objects of interest, resulting in confusion and conflicting attractions. When the sun is behind the camera, flatness is almost inevitable; if the sun is facing the camera, fog is all but certain.

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The town dweller, who only gets a chance of taking his hand camera into the country or seaside at vacation times, may be glad to be reminded of some of the likely mistakes due to intermittent photography of this kind. Judging distances with many of us requires pretty frequent verification by guessing the distance of an object and

then confirming or correcting the estimate by pacing the distance. It is particularly easy to under-estimate distances seen over flat, level land, such as a sandy shore or a grass lawn, and especially if there are no intervening objects to break up the distance. Everyone is familiar with the difficulty of estimating distances over water. The larger the stop the more important is it to estimate distances correctly when setting the focussing scale.

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Passing from town life to the open country or seaside it is very easy to go astray in exposure, as one is apt to forget that it is not the brightness of the sky or distance, but the darkness of the nearest object in the picture, that should determine the exposure, if under-exposure is to be avoided. At the same time, exposure often partakes of the nature of a compromise when the subject presents a very long range of light and shade. In that case, one has to consider what is the most essential feature in the picture, and let that command the situation. In outdoor work there is the constant temptation to include far too much subject-matter. The chief half of composition is in the drastic omission of all subject-matter that is not positively essential. In the majority of cases the foreground is by far the most important part of our subjects. Therefore, the simpler all other parts are the stronger appeal will this foreground make. Again, the color question is always with us. It is so easy to forget that a subject, charming by reason of its color, may—probably will—make a very tame monochrome subject, as we may see by looking at the scene

through a bit of colored glass. And yet again, with our eyes we see things in life size, while the lens gives us a picture on what often seems to be an insignificant scale—mountains as mole-hills, and men as pigmies.

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A sudden burst of summer heat over the land may easily lead to some mistakes being made in the dark-room if due heed be not paid to the rise of temperature. Most developing solutions act appreciably quicker when they are raised from, say, 60 to 70 deg. F. So that if this point be overlooked it is easy to overdevelop one's negatives, and when in any doubt on this point we think it is better to keep on the under rather than the over side, as it is safer to intensify than to reduce a negative. Again, when negatives or prints are passed from a bath of any kind at one temperature—say, 70 deg. to one at 55 deg., or vice versa—there is a risk of blisters resulting. This risk is increased when the two baths differ considerably in density, e. g., a fixing bath and plain water.

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For the benefit of those who are compelled to do most of their negative-making during the annual summer vacation season, may we repeat a word of old but sound advice, viz., to take a trial print of each negative, and then classify them into three groups: (1) those that are satisfactory; (2) those that require intensifying; (3) those that require reducing. Class (2) should be dealt with first, and here it is as well to have more than one string to one's bow, otherwise more than one method of working. In those cases

where there is room for doubt or hesitation then the often abused uranium method is nevertheless well worth considering. The common charge that negatives thus treated fade or change color is more than counterbalanced by the great advantage that, if for any reason the intensification is found unsatisfactory, it can be removed entirely, and the negative brought back to its first state by simply bathing it in a dilute solution of soda carbonate or liquid ammonia, i. e., a few grains or drops, as the case may be, per ounce of water. Where there is no place for doubt, then the rehalogenising method followed by redevelopment can be recommended, as it enables us to carry the strengthening to almost any reasonably desired stage.

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ENLARGING SMALL OBJECTS TO SCALE

It is a great convenience when working with lenses of somewhat short focal length to have some simple means of readily finding the position of the image plane for a given degree of magnification. It is very usual to add 1 to the ratio or degree of linear magnification and then multiply this number by the focal length of the lens, and take the resultant distance as the distance from the image to the lens. But this naturally leads to the pertinent question, "What part of the lens?" In many cases, especially with lenses of focal length of an inch or less, it is preferable to deal with the distance between the object and image, as these are definite measurable distances.

The calculation is quite simple. Add 1 to the ratio, square this number, divide this result by the ratio, and then

multiply by the focal length. For instance, let the focal length be one-half inch and a magnification of ten diameters be required. Adding 1 to 10 we get 11, and squaring this we have 121, then dividing by 10 we get 12.1, which is a numeric that we can use for any focal length. In the case of the one-half inch focus we get 6.05 inches as the 36.3 inches.

There is, however, another and perhaps yet simpler way of arriving at the same result, viz., "Add 2 to the ratio, multiply the focal length by this number, then divide the focal length by the ratio, and add this to the length already obtained." This reads rather complicated, but an example will show that it is very simple in application. Suppose we want five times magnification with a 3 inch lens. Adding 2 to 5 we have 7. Now multiplying the focal length, viz., 3, by 7, we have 21. Then divide 3 by 5 and add this, getting 21 3-5 as total object-to-image distance. It may be objected that this formula omits to take account of the inter-nodal distance or separation of the Gauss points, but this error in most cases with short focus lenses is negligible in view of the fact that the nominal focus of most lenses is to be taken *cum grano salis*. Quite recently we measured carefully and had our measurements confirmed by another observer, a lens marked as 24 m/m, yet found it was 19.1 m/m. But in any case, i. e., by either of the above-named plans, our practical want is to get the required image position quickly and simply, so that in the case of the need of extreme accuracy we can confirm or revise the distance by the usual micrometer method.

Not a few of our readers will be interested to learn that a new and timely number of the *Photo Miniature* series, which has just made its appearance, is devoted to "Travel and the Camera." This is a handy and practical guide for the traveler and tourist on holiday, away from home, with the camera. A copy can be had at any of the photo supply houses for 25 cents.

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SOLUTIONS

The average amateur, says *Photographic Scraps*, would find it of advantage to keep his chemicals in solution, preferably 10 per cent. In buying, say an ounce of sulphocyanide of ammonium, the dealer should be asked to weigh an ounce containing 480 grains instead of the ordinary avoirdupois ounce of 437½ grains. Placed in a measure and filled up to the 10 ounce mark with distilled water, this gives a true 10 per cent. solution and any 10 parts by measure of this, whether put up in minims, drachms, or ounces, will contain one part by weight of the solid. Most of the chemicals used with Ilford plates and papers may be kept in such 10 per cent. solutions. The exceptions are chloride of gold which should be one grain in one drachm, and Hypo which should be 1 in 2. Alum and hydroquinone can be used in a 5 per cent. solution, or 1 ounce in 20 ounces. Metol must be used dry as its solution in water is not very satisfactory.

The solutions should be put up in glass stoppered bottles and protected from light. The bottles, neatly labeled, are placed in alphabetical order on a shelf. Two measures will be required,

an ordinary 1 ounce or 2 ounces with minim graduations and a 10 ounces or 20 ounces.

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WITH THE CAMERA

NOTES FROM THE ILLINOIS COLLEGE OF PHOTOGRAPHY

The Bissell Colleges held a picnic June 19th at Lake Kanagga, and a great time was the result. Swimming, boating and other athletic sports, including a baseball game between the men, and one between the ladies, caused a great deal of merriment. Of course, the refreshments were unequaled, both as to quality and quantity.

Mr. Wm. H. Littleton, of Muncie, Ind., won two of the seven trophy cups offered at the last Indiana State Photo Convention. Mr. Littleton was a student of 1903, and is one of the many successful I. C. P. graduates.

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CHANGE OF NAME

The agency for the Lumière-Jougla Company products, heretofore known as the Lumière-Jougla Company, will hereafter be vested in R. J. Fitzsimons, whose address is the same, 75 Fifth avenue, New York City, and who will supply these well-known products as before. Mr. Fitzsimons is sole United States agent for the Autochrome and other Lumière-Jougla plates, as well as the papers and chemicals of that firm. As he has been connected with the firm for a considerable period of time, those entrusting orders and the like to him can rest assured that prompt and careful attention will be given.

The Photographic Times

With Which is Combined

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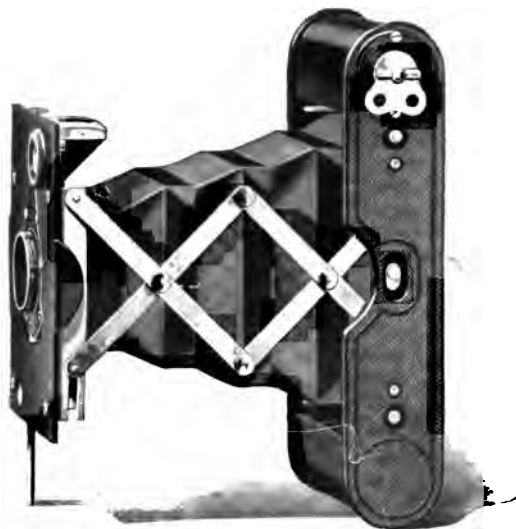
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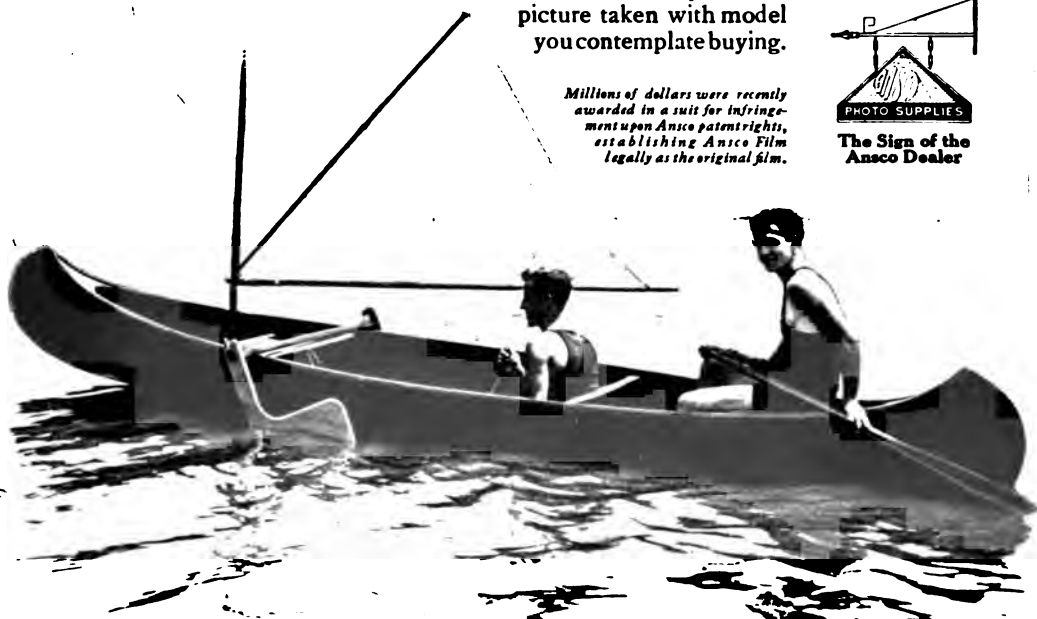
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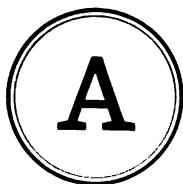
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SEPTEMBER, 1915

No. 9

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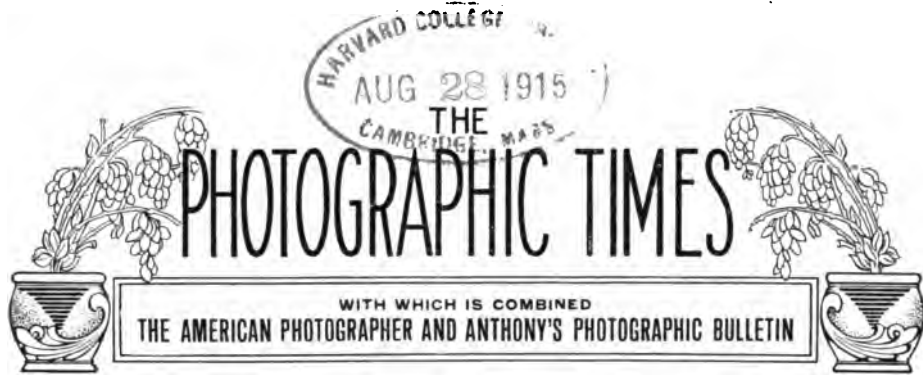
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"OAK OPENINGS"

Wm. Ludlam, Jr.



VOLUME XLVII

SEPTEMBER, 1915

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THE CAMERA IN TREE LAND

BY WM. LUDLAM, JR.

ONE of the greatest pleasures in the use of the camera is the study and picturing of trees, especially the old gray monarchs of the forest that have outlived their age of usefulness and loom up, stark and dead, like so many monuments of past grandeur.

To all camera enthusiasts the study of the architecture of the forest is well worth consideration. Dividing the subject into three distinct classes, the foundation, the framework and the completed roofed-in structure, furnishes an unending variety of subject matter for pictorial photography. The roots and trunk form the foundation, the limbs and branches the framework, and the foliage the roof covering and trim. To me the strongest picture material lies in the selection of isolated trees such as the gnarled trunk of some old weather-beaten monarch for the main theme of the composition, using the surrounding trees only as a background to set off the principal object. A close attention to some of these old-timers develops the fact that many of them have a per-

sonality all their own peculiar to the species. The white-birch is the decorative tree; the stately beech, the lovers' tree, on which all spooners of all times have carved the pledges of undying affection; the sturdy oak, the veteran of the forest, expresses pride of strength in every rugged line; the once "spreading chestnut" stands a picture of despair, a blighted hope amidst the budding promise of the surrounding forest; the pine, with its eternal covering of dark green, looms up an emblem of life everlasting. And so it goes, each particular tree has its special mark of character and tells a personal story to all who care to study and observe.

Whether trees form the principal object or just the incidentals of a picture their proper handling or spacing either makes or mars the composition. The most interesting time of the year to make trunk and branch studies is either late in the autumn or early in the spring, after the leaves have fallen and before the new ones begin to sprout. The different trunk and branch formations are more apparent and pro-



A FALLEN MONARCH

Wm. Ludlam, Jr.

nounced when devoid of foliage. The lines and characteristics of the bark then stand out in bold relief and form the theme for many interesting points of comparison in structure. Even following up the many vagaries in form of one particular kind of tree will provide material enough for dozens of pointed pictures. Take the chestnut-tree for example. In most states of the U. S. A. the chestnut, as a thing of beauty, is a relic of the past and nothing remains but the white skeleton of bark stripped trunks and wind-wrecked branches. The Department of Agriculture and the park departments of the various states have expended thousands of dollars in trying to preserve these trees from the deadly blight, whatever it is, fungus or insect, but have been powerless to prevent its spread and final victory. Forests which contain almost every other spe-

cies of tree known to our climate and all in a thriving condition, hold nothing but dead chestnuts. The doomed chestnut rubs branches with the live oak and the stately beech which the blight has passed by unharmed, and no one can tell why one was stricken and the others spared. I have made a special study of the old dead chestnuts and have wandered near and far with my camera just for the purpose of making a series of pictures of the last stand of some of these ancient monarchs which are fast disappearing under the final touch of the axe. Some of the happiest memories of my boyhood are connected with the "nutting season" and the chestnut was always the prize of these expeditions. Most boys would rather bring home a quart of chestnuts than a bushel of hickory. Halloween was never complete without the roasting of chestnuts and



THE FOREST POOL

Wm. Ludlam, Jr.



THE SHADOW OF THE PINE

Wm. Ludlam, Jr.

breathlessly watching them pop on the top of the stove. Now there is nothing but a collection of prints to remind me of past pleasures; but in their possession lies a great satisfaction. I have passed the "nutting season" of youth it is true and have fallen somewhat into the sear and yellow leaf with a few silver locks thrown in for good measure; but I have my faithful camera and the fever of photography knows no age limitations. Where I used to tramp the woods for nuts I now roam them for pictures and in the use of my camera have taken on a new garment of youth.

The best and really only plate for tree photography is the double-coated and orthochromatic used with a ray-filter. During the seasons of the year when there is no foliage and a great deal of sky shows, against which the

bare trunks stand out like so many black streaks, this plate is absolutely necessary. I use the Orthonon entirely; but there are many others just as good and each photographer has his own favorite brand. In making a study of some nearby tree focus sharply on the trunk, leaving the more distant trees in the middle-distance and background slightly out-of-focus to obtain an effect of softness. This subdues the harshness of the vertical lines and reduces the extreme contrast against the sky. Always keep a principal object either well to the right or left of the center. In making a picture of the trunk alone it is always best, if possible, to have it incline inwards to give balance to the composition. A tree trunk leaning the other way gives the appearance of falling out of the print. Of course when the picture in-



AN OLD MONARCH

Wm. Ludlam, Jr.



BARK STRIPPED

Wm. Ludlam, Jr.

cludes a number of the larger limbs or branches of their inward and downward curve will offset the outward incline of the trunk and preserve the right balance.

Develop the negative for softness as a hard negative, while possibly good for a record photograph, will never make a real picture. Pyro will produce just the right printing quality. Then if the prints are made on rough paper, of a soft grade, some really beautiful pictures will result.

I have made a special mention of the chestnut because of its personal appeal to me; but the choice of subject is unlimited. The white or silver birch is a great favorite in landscape composition and can be handled with many

beautiful effects especially as a foreground treatment for distant mountain views. The willow gives character to the picturing of small rivers and winding brooks. The lone pine in many instances is the making of the picture in all rugged mountain scenery. Each kind of tree has its place in the landscape, and a careful study will show that each landscape has its own particular species of tree to fit in the composition and form a proper pictorial balance.

A careful study of the tree element in all landscape work, both as principal and secondary object, is the real method of mastering this class of composition, as a close and intelligent observation will prove. Try it out and see.

IRON DEVELOPERS

BY MATTHEW WILSON.

PART ONE.

OWING, as is admittedly the case, partly to the real merits of the numerous organic bodies pertaining to the benzine or aromatic series of compounds that are, at the present day, available for use in the gelatino-bromide process, and partly, too, it is to be feared, to the very multiplicity of these, as well as to their being still, so to speak, technical novelties, it is to be regretted that certain of the developers formerly in constant use for this class of work are to-day discarded by the up-to-date photographer, whilst others of their number now find only a very limited application in his daily practice.

Amongst those of the latter class, the best known and also the most generally serviceable is the iron developer, a combination of proved utility, which, in fact, in one or other of its forms, has been in almost continuous employment for purposes of development from the era of Daguerre down to the date, within recent memory, when it was practically supplanted in popular favor through the agency of its modern rivals. It is true, indeed, that as a developer for bromide-paper prints, as well as a re-agent for the treatment of gelatino-chloride lantern slides, the iron bath possess certain properties which it has been found difficult to replace, and on account of which its services in this connection are still very largely taken advantage of by photographers. Signs, however, are not want-

ing to indicate that, as a necessary result of the inevitable reduction in the cost of the production of the rarer photographic re-agents, the use of the iron developer, even for work of this limited description, will, at some future period, in all probability not very far distant, be likewise discontinued, and that its place will be taken by metol or some similar compound of the aromatic series.

To Robert Hunt, that indefatigable experimenter of the early Victorian days, to whom, it is only justice to own, in no less degree than his more celebrated contemporaries, scientific photography in its primitive stages is under lasting obligations, is usually assigned the credit of having been the first to propose the use of an iron compound for purposes of development.

Hunt's communication on the subject to his fellow photographers seems to have been made in the year 1844, only five years after the introduction of the Daguerrotype process. At this period, it is necessary to recall the fact that Fox Talbot's iodide of silver process, on paper and also on glass, the prototype and parent of all the negative processes afterwards in vogue, had been newly introduced, and was, chiefly on account of its obvious utility as a picture-multiplying device, naturally attracting much attention. As a convenient substitute for the gallic acid developer originally employed in Talbot's processes Hunt proposed the use

of protosulphate of iron, or, as it is nowadays designated, ferrous sulphate. His suggestion was very favorably received by photographers, and a very brief experience of the working of the iron bath was found sufficient to demonstrate its valuable qualities as a developing agent.

A few years later, on the introduction of the collodion process, after various developing re-agents had in turn been experimented with and discarded, the merits of the iron bath were again the subject of investigation, and the results of the inquiry were so satisfactory that ultimately that developer was retained for permanent use in this branch of work, and is, even now, as most readers will be aware, still employed in wet-plate photography in preference to any other.

Coming down to our own day, amongst the numerous changes necessarily brought about in matters of photographic technics through the introduction of the gelatino-bromide process, the rejection *in toto* of the developing re-agents hitherto employed was perhaps the most remarkable and important. In the early days of the new process, to those working under the altered conditions the choice of developers was, in particular, a matter of special difficulty, owing to the circumstance of there being then a great deficiency of re-agents of a character suitable to meet the requirements effected by the far-reaching alterations in the routine of daily practice.

As a matter of fact, indeed, out of the limited number of baths in actual use in the dark-room at this period, only two, when subjected to the requisite tests under the conditions of work-

ing applicable to the dry-plate process, were found suitable for adoption generally as all around developers, on account of their possessing the qualities necessary to answer the requirements of the new state of things; and the re-agents in question, it may be added, have succeeded in retaining a well-deserved place in the list of gelatino-bromide developers still in common use at the present day.

Of the developers here referred to, the one is, of course, that serviceable and still highly popular photographic auxiliary, alkaline pyro. The other as may perhaps be surmised, is the so-called ferrous oxalate developer, a re-agent, as already indicated, formerly held in greater esteem than at present by dry-plate operators, but still occasionally employed nowadays in the dark-room in the absence of more modern substitutes.

If only for the sake of correctness of chemical terminology, it seems desirable here to mention that the name, ferrous oxalate, usually applied to this developer, is something of a misnomer, seeing that the salt in question, being a body practically insoluble in water, is not available for use in its simple state in the process of development. The re-agent actually and invariably employed as a developer under that name is, in reality, a concentrated aqueous solution of neutral potassium oxalate, saturated by the addition of the ferrous salt in the requisite proportions, the latter being readily soluble in this particular menstrum, owing, probably, to the formation of a solution of the double salt potassio-ferrous oxalate, a compound difficult to obtain in the solid state.



THE DUNCE

Elisabeth B. Wotkyns

Another useful developer of the iron series is the ferrous citrate bath. This, though somewhat lacking the vigorous developing properties of potassio-ferrous oxalate, and being in consequence not suitable for adoption for all classes of gelatino-bromide work, is sometimes employed as a developer for bromide and gelatino-chloride papers, for which purposes, on account of the delicate pictorial quality of the results produced, it is peculiarly fitted. The bath in question is also frequently utilized for the treatment of gelatino-chloride lantern slides. As a rule, both as regards prints and glass positives, it gives warmer tones than the oxalate bath, and, unlike the latter, the quality of tone obtainable by its means may be varied at will by the admixture of certain alkaline compounds with the iron salt when making up the developing solution.

Of the different baths above mentioned, it does not seem necessary here to say much regarding that commonly employed for negative development in the collodion process, such as that, save for certain special purposes, such as copying maps and diagrams, the cumbersome manipulations of wet-plate photography are in the routine of the modern dark-room practically discarded, and in consequence possess only an historical interest for the average operator. Several formulae for the preparation of this bath have from time to time been proposed, but as yet no very vital modifications either as regards the necessary chemical constituents or the relative proportions thereof have been effected in its constitution as originally devised in the middle of the last century. The following is a standard formula for the stock solution, and gives excellent results:

Ferrous sulphate. 2 ounces avoird.
 Glacial acetic acid. 3 fluid ounces
 Alcohol. 3 fluid ounces
 Water (distilled) 3 pints

This solution becomes gradually darker in color on keeping, but does not noticeably deteriorate with age, provided always that it be carefully preserved from the action of the atmosphere. When it is required for use in development it is advisable to filter the bath, in order to get rid of the insoluble sediment of oxidized matter which is continuously deposited in minute proportions with the lapse of time from the stock solution.

For ferrotypes and glass positives with the collodion process, a modified form of iron developer, of which ferrous nitrate is the principal constituent, is frequently employed in preference to the sulphate bath just described.

Passing to the consideration of re-agents more adapted to the particular necessities of the present era, of the inorganic developers available for use in dry-plate work, the oxalate bath, as already indicated, is by far the most important, and deserves, therefore, particular notice.

Towards the beginning of that comparatively recent period when the perfected gelatino-bromide process, having effectually superseded all its rivals and predecessors in popular esteem, had just succeeded in winning general recognition on its merits as an ideal photographic vehicle, potassio-ferrous oxalate, a re-agent then newly introduced, was adopted and very extensively employed as a developing agent by European operators, and was, indeed, for a time, almost exclusively preferred for this purpose by those of

France and Germany. To-day, notwithstanding that matters are now on a somewhat different footing, owing mainly to the greater variety of developers that are available for use in dry-plate work, it may still be of some service briefly to summarize the chief characteristics of this valuable developing re-agent, directing attention to its specially meritorious features, and at the same time indicating in what respects it is technically defective.

Apart from the strictly technical advantages appertaining to the bath in question as regards developing properties, the fact that the re-agents of which it is composed are amongst the commonest and at the same time the cheapest of photographic chemicals, must, from the standpoint of the professional photographer, at least, be treated as a very important consideration, and one which, now as formerly, will amply justify his selection of this developer in cases of emergency, or in circumstances in which the cost of the necessary working materials is a matter of particular moment. To the operator, more especially, who finds himself, (as not infrequently happens in certain rural districts) unable to procure for the treatment of his plates and films the more modern and higher priced developers presently in vogue, the oxalate bath will prove an invaluable substitute, inasmuch as its component salts, proto-sulphate of iron and neutral potassium oxalate—the latter, if need be, in the simplified form of carbonate of potash and oxalic acid—can always be readily procured, in almost any locality, and at a purely nominal cost, for the preparation of the necessary stock solutions.

(To be continued)



"MARTHA"

C. H. Judson

MAKING PRINTS FROM NATURAL OBJECTS WITHOUT A CAMERA

BY ALFRED J. JARMAN

THE production of photographic prints from natural objects without either lens or camera is not practiced to the extent it might be, especially by the amateur. The simple process to be described is one, when put into practice, in which those practicing it cannot fail. The many who have failed to secure good negatives upon plates or films, and many times only very indifferent results from the negatives they have made, only too often become discouraged, and then in either despair or disgust, get rid of the apparatus and declare they are through with photography. If those who have been disappointed will take heart and try the process given here, they will have reason to be both pleased and gratified with the beautiful and perfect results. In fact photographs made in the following manner (many of them) cannot be made so perfect by any lens and camera, the reason for this will become apparent.

The process is one in which printing out paper is used (P.O.P.) because this method of printing gives the best results. The progress of the photograph can be observed, its right density can be seen, therefore there need be no fear that a dozen good photographs can be produced from twelve sheets of paper. Any kind of printing out paper may be used, either gelatine or collodion, such as solio, aristo, platino, and similar papers. A home-made paper, the formula for the mak-

ing of which will be given here, also will answer well.

The illustrations given here are from prints made upon 4 x 5 solio, the resulting pictures being beautiful in the extreme. The objects used may con-



sist of every kind of leaf from shrub, tree or vegetable. The leaves of flowers, various kinds of moss, small branchlets of the many kinds of ferns, the scales and fins of fish, which should be carefully stretched and dried before use, as well as many kinds of lace.

PREPARING THE OBJECTS FOR PRINTING

The objects to be photographed may be best prepared by taking them singly and placing them between the leaves of a book, spreading each filament out so that it lies flat when the book is closed, and allowed to become

quite dry while the book is kept under a slight pressure. The drying will probably require a week. Assuming that the objects to begin with are small branchlets of ferns, as soon as they are dry, procure a 4 x 5 or 5 x 7 printing frame, place therein a clean glass plate free from scratches and air bubbles, then arrange the fern leaves and place upon these a piece of p.o.p., back this with a soft felt pad, close the frame, then place it out into daylight to print. If the sun is shining so much the better. The time of exposure may be two hours, or three, perhaps four. The reason for this long exposure is to permit the light to pass clean *through* the object and thus produce in a most perfect manner every vein and delicate filament that is *within* the leaf. The light it must be understood, must pass through the various shades of green contained *within* the leaf. It is by this means that the most perfect photograph can be obtained, because the image of the internal part of the leaf is secured, as well as the external surface. For this reason the lens and camera are surpassed. When the print is being made do not be in a hurry to remove it. At first a clean, sharp outline will be produced, with a white image upon a dark background. This, however, is not sufficient; continue the printing until the *inner parts* of the leaf are well marked upon the paper, deeply marked, because the whole print will become lighter through the operations of toning and fixing.

A number of these prints may be made in the course of two or three days, the finishing being carried out at any convenient time.

The illustrations given here consist of prints made from sprigs of fern, and the leaves of the rose bush. Upon examination it will be observed that every vein and every internal structure of these leaves are well marked, producing a picture that cannot be drawn by hand with such accuracy. Although these prints, one and all, are *negatives*, and positive prints may at any time be made from them, yet as they are produced they form an ex-



cellent record well suited for reference at any time.

As soon as the prints are made and ready for finishing they must be well washed in several changes of cold water, in fact until the milkiness of the water ceases, then they must be toned as follows:

THE GOLD TONING BATH

Water.....15 fl. ozs.
Saturated solution of borax. 2 fl. ozs.
Chloride of gold..... 2 grains

Chloride of gold being a very deliquescent, is sold in sealed glass tubes

or bottles containing fifteen grains in each tube. Place the contents of one of these tubes in seven and one-half ounces of distilled or boiled water, in an amber colored bottle, then when making the toning bath one fluid ounce of this solution will contain two grains of the chloride of gold.

The prints being well washed, place them into the toning bath (which may be used as soon as it has been mixed), turn the prints over and over, so that they do not lie too long overlapping one another, or they may become marked, then as soon as the color changes from their red brown color to a purple brown, place them into cold water, give them a second washing, then place them into the fixing bath, made as follows:

Water. 20 fl. ozs.
Hyposulphite of soda. 3 ozs. av.

As soon as this is dissolved add one dram of solio hardener. The prints are now placed into this and turned over occasionally for ten minutes. They are then washed in running water for half an hour, or placed into fresh water from tray to tray a dozen times. They may then be suspended with a wood clip at one corner to dry, when they may be kept perfectly flat by placing them between the leaves of a book, ready for inspection at any time. Solio hardener may be made by mixing the following with *cold* water:

Bisulphite of soda. $1\frac{1}{4}$ ozs. av.
Chloride of aluminum. $1\frac{1}{2}$ ozs. av.
Water. 6 fl. ozs.

Shake the mixture well until the salts are dissolved.

The preparation of plain paper for printing out is made as follows:

SALTING SOLUTION

Distilled water. 10 fl. ozs.
Common salt. 50 grans.
Chloride of ammonium. 50 "
Gelatine. 1 dram

Warm this, then as soon as the gelatine has dissolved, filter it through a piece of absorbent cotton pressed lightly into the neck of a glass funnel, pour this mixture into a clean tray, and float, *not* soak, the paper face down upon it for three minutes, having marked the paper upon the back with a light pencil mark so as to distinguish the front from the back. After floating, suspend the paper to dry, when it may be kept flat previous to sensitizing between the leaves of a book, face to face. In this way it will keep in good condition for months. When the paper is required for use it must be sensitized upon the following solution:

SENSITIZER FOR PLAIN SALTED PAPER

Distilled water. 11 fl. ozs.
Recrystallized nitrate of
silver. $1\frac{1}{2}$ ozs. av
Citric acid (crystals). 100 grains

As soon as the salts are dissolved, the solution is poured into a clean tray and the paper floated face down upon it for three minutes. It is then lifted at one corner, clipped with a clean wood clip and suspended to dry in the dark; when dry it is ready for use. This sensitized paper will keep in good condition for several weeks, if kept under pressure in a printing frame. The printing is carried out in quite the same way as for solio, and when soaked with paraffine in benzine make excellent negatives to print from. The best paper to use for this work is sold at almost all photographic



READY FOR THE GAME

Floyd Vail

dealers in sheets 18 x 23 for 50 cents per dozen sheets. It is thin and quite free from spots. The toning of this paper, fixing and washing is the same as for the solio prints previously described. The sensitizing solution may be used to the last drop, and the gold toning bath may also be used over and over again by the simple addition of a small quantity of chloride of gold solution, and the concentrated borax solution. The fixing bath should not be used more than twice. Owing to the small cost of this bath it is better to make a fresh one for each batch of prints.

It is advisable in toning to cut the process short of the color required because the finished prints are much richer in color and will not reach the stage of a slaty blue, which is not only objectionable from a color point

of view, but is less effective as an opaque negative color when it comes to be used as a negative for printing from.

The gold toning bath will become discolored, turning to a violet purple, owing to a faint reduction of the gold solution. This, however, is of no consequence; in fact, at this stage, the color of the prints are more brilliant and rich than when a mere toning bath is used. Those who will put these directions into practice will have every reason to be satisfied with the results. Every piece of paper used is capable of producing a good print, the right depth being observable *before* any finishing operations are attempted. This insures no waste of paper, producing gratifying results, with no failures—only complete satisfaction to the practitioner.

ANOTHER METHOD FOR DEVELOPING AND PRINTING FOR THE AMATEUR

BY JOSEPH MIXSELL

With Five Diagrams

A FEW years ago I decided that I was not getting enough fresh air and bought a camera in the hope that it would take me more into the big outdoors. That was the beginning and as is usual in amateur photography, the end is not yet. After much reading of catalogues I decided that the type using film packs was what I wanted—I liked the convenience, but above all the black paper tab which is pulled out after an exposure and usually thrown away appealed to me from the record standpoint. This was before the coming of the Auto-graphic Back, but even now I would not care to change. They require, perhaps, a little more care in handling than the roll films, but not more than should be given to anything worth doing well. In over five hundred exposures I have lost less than a dozen through being light struck and I have changed packs while on a boat and in bright summer sunlight. And so this tale is based on the film pack, but many of the points may be applied to the use of roll films and plates.

I live in a flat and use the bath room for my dark room and a spare room is my workshop, wherein I store my things and make enlargements which are developed in the bath room. The matter of making the bath room dark was easily taken care of by pulling down the shade, then hanging in front

of it a curtain made of black window shade material mounted on a stick at each end. One stick is hung over two nails in the top of the window casing and the other—at the bottom of the curtain—holds it taut. This is easily put up and taken down and takes up little room when not in use, since it is rolled up on the sticks. If any daylight work is done a hole may be cut in the curtain and post-office paper pasted over it to make the light safe to work in.

Then came the question of a suitable bench or table on which to work. Our flat, the same as most of them, has a stationary washstand in the bath room, oval in shape and having no surface on which to place a tray so as not to fall off, but by the use of a board of convenient size and a screw clamp such as carpenters use, it was made to serve as a very good bench with running water directly in front of you. The board is laid on top of the stand and the clamp is hooked over the board with the screw underneath the stand tightened up enough to hold the board in place. I have recently acquired a developing tank and use the board arrangement only when making prints.

In order to get the full value of the film pack it is necessary to match each negative with the black paper tab to which it was originally attached and on which should be written full data

ENLARGEMENT		
Size.....	From.....	
Paper		
Developer		
Lens		
Stop.....	Time.....	Easel Setting.....
Apparatus		

Fig. 1

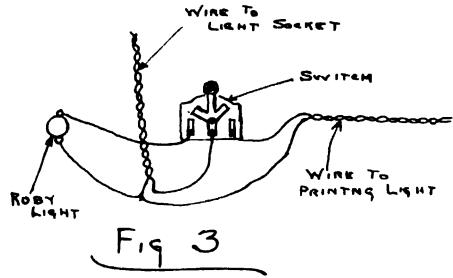
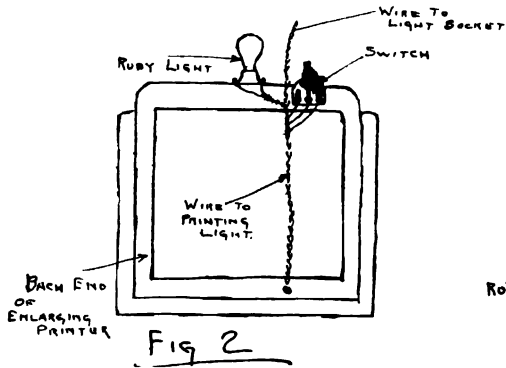
concerning that particular exposure. After trying several methods I concluded that punching the same number of holes in the film as the number of the tab to which it was attached was the best means of securing the end in view. After a very little practice this can be done with little or no fingering of the film surface and the holes which are punched with a pin through the strip or silk and the film under it where it is attached to the paper backing do absolutely no harm and do make the proper matching an easy matter.

I found that in washing films in running water they became badly scratched from contact with the corners and edges of other films. To overcome this I adopted the method of washing which consists of suspending the films in a quantity of water and allowing them to soak for an hour or two during which the hypo. is eliminated through its specific gravity being greater than water. Suspending each film separately by means of a cork did not cure the difficulty entirely since air currents cause them to float together, and at the same time that method meant many trips from the bath room to the place where they are hung to dry. All trouble in washing and drying has been gotten over by the use of a soft pine board, about four inches wide and a little less in length than the bath tub, which is floated on

the water in the tub. To the edges of this board are fastened, with a pin each, the films being washed and after sufficient time the board, with the films attached, is lifted from the water and being supported by its ends on the back of two chairs forms an ideal drying rack, besides a very efficient help in washing.

After the negatives are dry they are given the consecutive numbers of the filing envelopes. To those people who are using transparent envelopes for film filing, a word of warning; look over all your films frequently to make sure that none are stuck to the inside of the envelope where it is glued together. I have had spoiled a number of valuable negatives through this, the reason for it I do not know since they were kept in a perfectly dry place. I have discarded the transparent envelope in favor of those made of manila paper, on the back of which I attach a print from the negative it contains. I find this even better than the first method since good looking negatives are not always good printers. On the front of the envelope, in the place for it, a record of the print is made so that it may be duplicated at any time. The form printed on the envelope is supplemented by a form (see fig. 1) which I devised in order to make a record of the most desirable enlargements made from the negative or any part of it. I have a rubber stamp of this form which is used on all new envelopes purchased. The headings explain themselves except, perhaps, "Easel Setting," which is covered later.

A piece of wire bent into a loop and fastened to the handle of a large

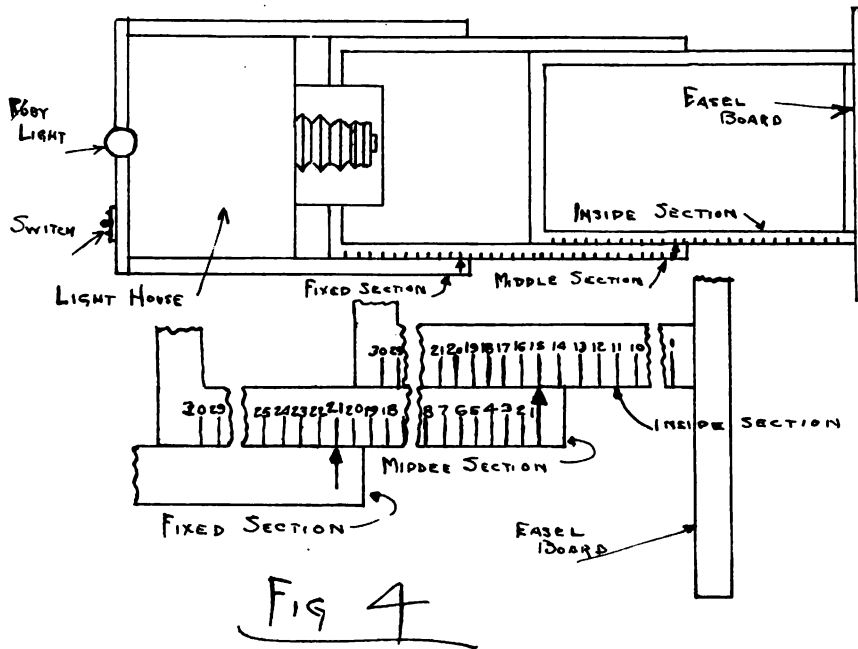


dish pan so as to extend over the edge into the pan makes a very good print washer in connection with a piece of rubber tubing attached to the bath tub faucet and inserted in the wire loop so as to direct the water against the side of the pan, thereby giving it a rotary motion. The pan is placed in the bath tub to carry off the water.

I own a Radion Enlarging Printer No. 1, which is an inexpensive outfit for making enlargements, using your own camera if it is equipped with a removable back or ground glass, which may be removed. This is well made, does good work, and works not too rapidly—the light source being an incandescent electric bulb, attached to the ordinary house fixture, in a parabolic reflector—about thirty seconds being required to enlarge to two diameters on bromide paper from a normal negative with stop f16. There is one feature which might be corrected and that is that the negative is apt to get too warm for safety, but this, however, is easily taken care of by the use of ordinary care in not allowing the printing light to burn too long at one time. The No. 1 and smaller outfits are not equipped with a separate switch to turn off and on the printing

light necessitating much tiresome getting up from your seat to control the light. Fig. 2 shows the back end of my Radion with a switch and wiring so arranged that from my seat by the table I can conveniently switch the current to the printing light or to the ruby globe on top of the outfit for general illumination in which it is safe to handle bromide paper. Fig. 3 indicates the proper wire connections to be made. The switch is a single pole double throw known as a Trumbull Battery Switch. This equipment has proved to be of very great convenience and while the position of the separate units might have to be changed it can be adopted to any enlarging outfit using electric light.

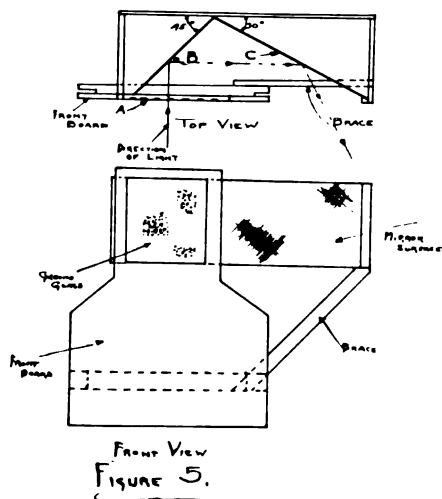
The adjustable bed of my enlarger is telescoping, having three sliding sections, one inside the other, to the end of the inside section being fixed two metal uprights over which the easel board is slid and drawn to or from the lens to alter the size of the image on it. To the end that my system of records might be complete it was necessary to show the distance between the lens and the easel for a certain size enlargement and in order to save time and labor in arriving at this entry



I made two scales which are glued one to the middle section and one to the inside section of the telescoping bed. Reference to Fig. 4 clearly explains this—the setting shown being indicated as 15/21 under the heading “Easel Setting” referred to in connection with negative filing earlier in this article. The numerator of this fraction is the number opposite the arrow on the middle scale while the denominator is the number on the middle scale opposite the arrow on the fixed section of the bed. It will be seen that on changing the position of the easel the arrows will point to different numbers and when the desired size of picture is secured the fraction then indicated will be the “Easel Setting” for that size picture from that negative. At any time the easel may be set according to that index and the desired size picture be secured without loss of time in adjusting the easel. The

numbers on my scales indicate half inches, which was found to be the most convenient. These scales may be used on any enlarging outfit having a sliding means of adjustment of the easel, but the length and form may have to be changed according to the construction of the outfit.

Often, in enlarging, it is desirable to focus accurately on ground glass before exposing, but this is inconvenient because of the focusing adjustment being some distance from the ground glass behind which you must be in order to observe the accuracy of the adjustment. By means of a combination of mirrors mounted so as to be interchangeable with the easel board this focusing is easily and conveniently done from your seat at the table. This device consists of a piece of ground glass behind which are two mirrors fixed at such angles as to reflect the image on the glass in a direc-



tion for the operator to conveniently observe the accuracy of focus. Fig. 5 shows this arrangement and the angles of the mirrors necessary to reflect the image at an angle of thirty degrees from the beam striking the ground glass, the ground surface of which must of course be in the same position as the face of the easel board were

the easel substituted for the focusing device. In this attachment I have made, the ground glass, A, is three inches square, mirror B is three inches wide and four and one-eighth inches long and mirror C is three inches wide and six inches long, and the ground glass is so placed that the center of it is the same distance from the bed as the lens. This focusing device can easily be constructed for use on any enlarging outfit where the easel is removable. It has proved to be very handy and well worth the few hours and the ten cents for the mirrors, spent in making it. In using the focusing device the easel is set to the proper distance for the size desired and approximate focus is secured in the ordinary way. The easel is then removed and the focusing attachment put in its place and the focus accurately adjusted, by looking in the mirror, after which the attachment is replaced by the easel and the exposure made.



A STORMY SUNSET

A. H. Anderson



A FAIR BREEZE

Wm. S. Davis

HARBOR SUBJECTS

BY WM. S. DAVIS

TO the lover of marine views the numerous harbors along the coast and larger bodies of inland waters present a most fascinating array of subjects for pictorial work, and owing to the nature of the material the compositions are constantly changing, consequently one's interest is continually stirred by some fresh combination, the chances of repetition being small, even when active work is limited to a single locality for a long time.

While the general types of subjects naturally vary according to the locality, it would be difficult to make a choice as to relative pictorial value. Much of interest is available in the quaint towns and fishing villages scattered all along our coast, and it may be said in passing that the op-

portunities are not confined to a few famous localities which have been painted and photographed for years; for, without reflecting in the least upon their merits, there are plenty of other places whose names are practically unknown outside of shipping circles well worthy of attention by the pictorial worker.

In the smaller towns one not only has a chance of securing vessels at anchor or under sail, together with charming cloud effects, but along shore may be found boat landings, fish shanties, ship-yards with vessels undergoing repairs or new ones under construction, and frequently inlets used as snug harbors for small craft, all of which afford a wide choice of material.

On the other hand there are other



IN PORT

Wm. S. Davis

subjects only met with around the larger seaports, which present a varied panorama of commercial activity, with ocean-going ships constantly passing in and out, while busy tugs, barges, lighters and ferries all add their share to the interest of the scene. The latter by the way often afford a very good means of obtaining interesting views of shipping, and in a city like New York, where so many portions of the harbor and rivers can be reached by them, it is possible to secure not only different classes of vessels under way but also practically any choice of background desired along the water-front. When a city presents an attractive sky-line many good studies can be made looking shoreward with ships lying at the piers, and too, the pictorial possibilities of the bridges must not be

forgotten, as they may well be used either for the leading feature or as a setting for some vista.

As the charm of marine views depends so much upon atmospheric quality, the most favorable time for working is when clouds or haze soften the tone of distant parts, and the distribution of light and shadow (particularly in summer) is usually more pleasing during the early morning and mid-afternoon hours, not only because the shadows are longer, but also owing to a general quality of the enveloping air, much easier felt than described, which produces a marked difference in the results obtained.

A slight change in the direction from which the light falls alters the tonal arrangement of any subject so much that it is of the greatest value when one is trying to produce a pic-



BROOKLYN BRIDGE—EARLY MORNING

Wm. S. Davis

ture from rapidly shifting elements to be able to anticipate a particular combination in time to take advantage of it at the proper moment without hesitation. As an aid in this direction the best way is to form the habit of constantly analyzing pleasing effects at all times with a view to discovering the particular lighting or tone arrangement responsible for them. As all the objects which go to form a composition must make spots of varying tone values in the pattern, it is useful to know in advance whether in a given lighting a certain part will tell lighter or darker compared with surrounding portions of the scene. For instance, if a white winged yacht is snapped against a background of milky white sky, such as is often seen at noontime on a hot summer's day,

the result will be flat and uninteresting, owing to the sky and sails being of practically the same tone value, but take the same subject in sunshine when the sky is a deep blue, or billowy clouds are scudding by, and we have an effective background for the white sails, while the entire picture can be made to suggest the sparkle and natural brilliancy of the scene.

If, on the other hand the subject is some old coasting or fishing vessel with grey weather-stained sails, or a freighter leaving a trail of smoke in her wake, a better tone arrangement is frequently presented when looking more or less against the light, making the craft appear darker in tone, and allowing the high lights to come in water or sky, only beware of



SUNSHINE AND CLOUD

Wm. S. Davis

making the dark masses quite black in the finished picture. Rather, allow extra length of exposure when working against the light. The foregoing are simply a few points mentioned more for their suggestiveness than as set rules, for as someone has well said, every picture presents some fresh problem, and in consequence the treatment necessary must largely rest with each individual, guided by experience and good taste.

When photographing vessels at fairly close range it is desirable to work from a view-point not higher than the deck of the one being taken, as by observance of this point more pleasing perspective will be secured, and the true size better rendered.

If, as is often the case when working around wharves, it is desired to secure a bow or stern view of a vessel on

a large scale in the picture, one should guard against violent perspective in the bowsprit or boom, which will occur if the lens is too near the subject.

Working from a steamer in motion, it is safer to select a position away from the immediate vicinity of the engines, as their vibration is liable to cause enough blur in the negative to spoil fine definition. Furthermore the instrument should be held in the hands rather than attempt to steady it against a railing or deck house.

As to the outfit. While any camera may answer along the shore, some easily manipulated type of very moderate size is by all means most practical for use afloat. I now use a $3\frac{1}{4} \times 4\frac{1}{4}$ folding plate camera, fitted with anastigmat lens of six inch focus, for such work, and find it very conven-

ient, but of course the particular style of apparatus is largely a question of personal taste, and fine results are obtainable with some of the pocket outfits when equipped with high grade lenses, which allow high magnification in making enlargements from the small negatives. As however light conditions are usually favorable on or near the water very large apertures are not essential, consequently if one is satisfied with a moderate sized enlargement from a negative excellent results may be obtained with cheaper lenses, like the R. R. and Single Achromatic.

On account of the extra amount of light, both direct and reflected, the lens should be provided with some sort of a shade to guard against a form of halation caused by bright light striking the front of the lens.

Color sensitive plates of the double coated or backed variety are best, unless one prefers to use films, and when

the additional exposure can be given, a ray-filter of medium depth (say 3x) will greatly assist in retaining relative tone and color values, but if this cannot be used some brand of "non-filter" or "anti-screen" plates make a fair substitute.

Exposures alongshore would be approximately one-half those required for objects of similar tone inland under the same conditions of light, and for shipping in the open, say not nearer than fifty yards from the camera, $1/50$ to $1/100$ second with stop F.8 would prove about right in summer from 7 to 9 A. M. and 3 to 5 P. M. If the work is done nearer noon in clear light a somewhat smaller stop might be used.

Care must be taken when strong contrasts are in evidence, not to accentuate them by over-developing the negative, for black, opaque shadows and chalky highlights destroy all feeling of atmosphere in a picture.



THREE CRACKS

From left to right—Campbell, Meredith, Higgins

W. I. L. A.

SOME MOTION PICTURE ENTERTAINMENTS AS A SOURCE OF PLEASURE AND PROFIT

BY ERNEST A. DENCH

WHEN it comes down to the actual producing of photoplays, they cost more to put on than ordinary photographs. On the other hand, however, there are sixteen pictures to each foot of film, so it means that if you produce a full reel you have no fewer than sixteen thousand separate photographs.

There are several ways and means of extracting both pleasure and profit from the hobby or business, according to which angle you regard it from, such as by getting the local photoplay theatres to exhibit your product and pay you a small fee. If the negative is sufficiently widespread in appeal and interest you could probably get it purchased by one of the regular film concerns.

But now the motion picture has entered the home, and an excellent opportunity thus presents itself to specialize in home entertainments. I will now proceed to lay out some methods for your guidance. After you have given much devotion to motion picture photography, you will, naturally, have gotten together a collection of films. These will probably embrace several classes of educationals, local topical and short comedies and dramas staged locally and acted by amateur actors whose services you have acquired.

You will, first of all, need a projection machine, if you do not happen to already possess one, and there are two

kinds of these on the market. The miniature projector has a shorter throw, but points in its favor are that it is easier to manipulate and does not consume so much current. It also only costs one hundred dollars, whereas the price of the standard machine is three times as much.

I cannot dismiss the matter without offering the advice that it is one for you personally to decide, though if you intend confining yourself to exhibitions in ordinary homes, the miniature machine will suit just as well. In the case of large halls and so forth, however, the large machine stands supreme.

The authorities will not permit you to show films unless you project same under a "safety first" roof. In the catalog of the theatre equipment concerns you will find a film booth listed at fifty dollars. It is four feet wide, five feet long and seven feet high. This metal enclosure is just the very thing for your purpose, for it is portable and only twenty minutes is occupied in erecting it or pulling it down after a show.

We now approach the problem of a satisfactory screen. The size of this will depend on the room itself, so it is advisable to purchase two different sizes. One about three feet by three feet wide might about fit in and another several times the size for where big rooms are available. The ma-

terial, I understand, costs anything from ninety cents to three dollars and seventy-five cents per square yard.

It is also possible to hold exhibitions at garden parties and the like, for there is a screen which gives as good results by day as by night.

When you have everything in readiness for your operations, the time is ripe to write all your friends and acquaintances soliciting their support. Motion picture home entertainments are quite a new thing and offer a refreshing change from the usual run of social functions.

Your own film library will fit in like a glove and you will not feel guilty of competing with the regular photoplay theatres in your neighborhood. In this way you will be able to retain the friendliness of the exhibitors and continue to supply their own special needs.

You have, of course, the option of fixing your own territory, but I would recommend you not going beyond a radius of several miles. This will se-

cure for your films a more warmer reception because the spectators will evince special interest in knowing that they are local efforts produced by local talent, the pictures also being set amid scenes and things familiar to them.

If you desire further clients, an advertisement in the local newspapers, setting forth the charms of a private motion picture entertainment for social gatherings, at clubs, societies, and lodges, will no doubt achieve the results you strive for.

The usual fee to charge is ten dollars for an hour's entertainment, comprising about three reels, and five dollars for each additional hour. It is advisable to vary the films as much as possible, for it is variety on which the film industry has been built up. You can, for example, have a one reel educational and a drama and comedy each of the same length.

There are brilliant possibilities in this field for the cinematographer who is enterprising enough to grasp them.



A CLOSE FINISH

W. I. L. A.

TIME AND TEMPERATURE DEVELOPMENT WITH SOME NEW TABLES

BY F. C. LAMBERT, M.A., F.R.P.S.

THOSE who are more or less constantly at the developing sink soon acquire a kind of instinct or rapid judgment which enables them to decide after a mere momentary glance if the plate has acquired the required average density, etc. But the occasional worker is often greatly uncertain as to when to stop development. The beginner is still less able to form any judgment in the matter.

In general it is an advantage for any kind of printing—including the making of lantern slides—to get the majority of one's negatives fairly uniform as regards those parts which are to print the lighter tones, and at the same time preserve the gradations. The experience of many—probably the majority of occasional workers, tends to show that a better average of resulting negatives is obtained by some form of timing rather than eye estimating of development.

Again there is the not inconsiderable advantage in the time method due to the absence of any need for exposing the plate to dark room light, safe or unsafe—beyond what may be required for the transfer of the plates from the holders to the developing dish or tank. This may be reduced to zero, after a little practice with waste negatives, which enables one to do this easily and certainly in complete darkness.

Mr. Watkins in his excellent little

manual gives the following table of temperature coefficients:

Pyro soda—without bromide.....	1.5
with bromide	1.9
Kodak powders	1.9
Rodinal Azol. Victol. Certenal...	1.9
Metol-Quinol.....	1.9
Glycin.....	2.3
Rytol.....	2.2
Hydrokinone.....	2.25

I might remind the reader that the temperature coefficients tell us the relative total time required for developing a plate for the same density at two different temperatures separated by 10 degrees C or 18 degrees F. For example, suppose it takes $7\frac{1}{2}$ minutes at 50 degrees F. and 5 minutes at 68 degrees F., the temperature coefficient would be $7\frac{1}{2}$ divided by 5, or $1\frac{1}{2}$, or 1.5, as in the case with pyro soda without bromide.

But note that we could not take the midway point between 50 and 60 degrees F. and say the time would be midway between 5 and $7\frac{1}{2}$ minutes. The time growth (or decrease) is governed by the compound interest law. For instance, suppose a fall of 1 degree increased the time by 2 per cent. Then the fall for 2 degrees would be $102/100$ multiplied by $102/100$, for three degrees it would be $102/100$ multiplied by itself three times. So that for 13 degrees fall the increase would be $102/100$ multiplied by itself 18 times, and so on.

Whether we take a difference of 13

degrees or 20 degrees it matters little in actual practice, and for ease of calculation I have based the accompanying table on 20 degrees F. difference, and tabulated only for steps of 5 degrees between 50 degrees and 70 degrees F., as most of our work is done within these limits.

The table includes three temperature coefficients, viz., 1.5, 1.9, and 2.25. This list is taken to represent all the three last items on Mr. Watkins' list, viz., Glycin, Rytol, and Quinol.

The temperatures given in the first column only show steps of 5 degrees F. Anything intermediate can be approximated in practice; thus 54 or 63 might be taken as a little longer than 65; or 62 or 61 a little shorter than 60 degrees.

T.C. stands for temperature coefficient of course. The figures under this heading show the *relative* times of development. Thus in the case of Pyro soda T.C. 1.5 the relative times for 60 degrees and 55 degrees are as 1.22 to 1.35 or 122 to 135. But for T.C. 1.9 the relative times are as 137 to 161. So that if the worker finds that his own pet Pyro soda formula gives him what he wants at 65 degrees in 5 minutes and wants to know what this is equivalent to at 55 degrees F. he has to do a rule of three sum. Thus, as 65 degrees or 1.1 is to 55 degrees or 1.35 so is 5 minutes to the time required, or to put matters in the form of a rule multiply the old time known by the *new* ratio number and divide by the old ratio number. In the above case multiply 5 by 135 and divide by 110 which gives us 6.13 or 6 minutes 7 seconds, or "thereabouts."

TABLE SHOWING PROPORTIONAL TIMES, ETC., FOR DIFFERENT TEMPERATURE COEFFICIENTS.

F°	1.5		1.9		2.25	
	T.C.	D.	T.C.	D.	T.C.	D.
70	1.	m.s. 5-52	1.	m.s. 5-20	1.	m.s. 5-18
65	1.1	6-30	1.17	6-30	1.22	6-30
60	1.22	7-12	1.37	7-37	1.5	7-56
55	1.35	7-57	1.61	8-56	1.84	9-46
50	1.5	8-48	1.9	10-30	2.25	11-54

Now in the right hand column of each main division are a number of times in minutes and seconds and it will be noted that in each case the time is 6½ minutes for 65 degrees. The reason of this is that somehow or other with some workers 6½ minutes has become a kind of standard time for this temperature. Personally I attach no importance whatever to this beyond the case of my pyro soda formula which I have so adjusted to give me a somewhat bright negative in these times. In the first instance I worked out this table and formula for use in connection with photomicrography where usually one wants a fairly bright clean negative from which one can get bright lantern slides. With this formula (given below) probably most workers arriving at a negative for contact portrait printing or landscape enlarging would find that 5 minutes at 65 would be preferable. But this is a matter which each worker must by one or two careful trials find out for himself. Once he gets the right time for his own pet formula at any observed temperature then the above rule of three and time ratio numbers in the table enables him to complete the time table for other temperatures. One last word. On paper it is of course quite desirable and ideal always to develop at a fixed tem-



RAMBLER ROSES

Chas. H. Newman

perature. In practice most of us find it far from easy to keep dishes, bottles, and all else at say 65 when everything in the dark room is say at 55. Instead of bothering about warming solutions, dishes, and so forth, it is really quicker and better to take things as they are and alter the time of development.

My pyro formula is:

A

Pyro.	40 gr.
Potas melabisulphite.....	40 gr.
Soda sulphite (cry).....	350 gr.
Water to.....	10 oz.

B

Soda carbonate (cry).....	1 oz.
Water to.....	10 oz.
Use equal parts of A and B.	

"AS THE EYE SEES IT"

BY WILLIAM H. BLACAR

WRITERS on things photographic are apt to use the expression "As the eye sees it" and I have been thinking lately as to how the eye does see it, and I find that my ideas on the question were not as sharp as F/64 or even soft focus, but were decidedly fuzzy. Of course the first thing is that it is not my eye that sees an object but it is my pair of eyes that see it. That is readily understood.

On looking out on a landscape I find that my eyes see a small portion of the scene directly before me quite plainly and I see that part with both eyes, but the part of the scene on the extreme right is seen only with the right eye, and that on the extreme left only with the left eye, so that speaking very unscientifically, it is as if one picture is seen with one eye and another picture with the other eye and another picture with both and they were all combined into a kind of panoramic picture.

As to how much is seen I find that my eyes take in sideways a view of about 180°. Some wide angle that. Try it, and I also see almost down to my feet, but as to the upper part of the scene it seems that my eye lids and brow cut off some of the view.

It seems hardly possible that I use my eyes at that extreme wide angle all the time and actually enjoy it, too. In looking at a landscape I find that I need this wide angle to get all the

beauty and perspective of the scene and if I close one eye I lose a large part of the beauty. In looking at distant hills I find that I want the view clear almost to my feet and if in holding my hands so as to block off part of it some of the effect is lost and the same also if I hold my hands so as to shut off the extreme ends of the scene.

A big bare field in the foreground which seems to ruin a photograph is found in nature to be a thing of beauty and I would not miss any of it. I like it as well as if there were prominent objects in the foreground.

I have come to have great sympathy for the horse who is obliged to wear blinders and get a narrow angle view of life.

Some liken the action of the two eyes to the action of the two lenses of the stereoscopic camera, but there is considerable difference, for each lens of the camera sees all of the object, only from different viewpoints, and so gives the stereoscopic effect not only in the center of the picture but also at the extreme left and right, whereas if they acted as the eyes do they would give the stereoscopic effect only in the central parts, for the left lens would not see the extreme right of the scene and the right lens would not see the extreme left.

Our eyes are stereoscopic only for the central part of the field.

As to how much I see plainly at one time I find that it is very little. I

look across the room at an object a few inches to one side of the clock and I cannot read the time on the dial. If I look at a house at a short distance away I cannot see the house adjoining so as to give it any sort of a description. I look at a window in the first house and cannot tell whether the windows in the adjoining one are square or round. Cannot even see the panes of glass or the sash and frame. Looking at a landscape I see a very small part in the center plainly and the rest of it is fuzzier than the rankest fuzzy-graph made by an insane photographer. And I like it. Also, I am not looking at the scene with dead eyes but with eyes that are very much alive and they are at rest hardly an instant but are constantly on the move looking from one object to another and also constantly changing the focus if needed. Would anything look beautiful to me if my eyes were not constantly roving over every part of it?

If I look at a picture of a landscape I find that my eyes naturally rove all over the picture the same as they do in looking at the nature scene, and enjoy finding new beauties even out to the edges as well as I enjoy looking at the main object of the picture.

As for the distinctness with which my eyes see I find that they are in a continual fight for $F/64$ and are never satisfied with anything else.

Whether I look at things near or far, a picture or a natural scene my eyes instantly focus their sharpest. My eyes being my optic it is impossible for them to focus on distant objects, and years before I ever used a camera I hied to an oculist and got glasses to satisfy that craving of my

eyes for $F/64$ and it opened up to me a new and beautiful world which up to that time I had never seen.

If I point my camera at a man fifty feet away I get a picture of him one inch high and a man 100 feet away is one-half inch high, but if I look at these two men my eyes seem to see them as just about the same bigness, and a four story house at half a mile seems about as big as if seen at half that distance, but I suppose that the picture on the retina of my eyes is as we see it with the camera.

I am just beginning to wonder as to how the eye does see it.

I look at a bright point of light and there seems to be as the eye sees it, rays of colored light spreading out from each point and coming towards me. Every particle of the rays seem on the move towards me but if I put my camera up and focus the point on the ground glass and then look at the ground glass slightly from one side I find that the image is not as the eye seems to see it but it is an image the exact shape of the light but there are none of the bright moving rays that appeared to the eye.

I see a window with the sun shining on it and it appears to my eyes a great dazzling light with the rays of light all coming towards me and the shape of the window as far as I can tell in very much like a circle but if I focus on the ground glass I see there a picture of the window in its proper shape and with its sash and panes of glass as I know there are no beautiful rays of light proceeding from it toward the image.

Why can't we take the sparkle of snow or water "as the eye sees it" is

a question that is often asked and a feat that is often attempted, and is always a failure. To see the sun shining on a window of a house at a distance and the window does not appear square to me but more nearly round with the cone of bright rays apparently streaming out from it toward me and every particle of the rays seem in motion and the picture of it on the ground glass simply shows a regular shaped window and very white. Not the slightest trace of sparkle as I can see. The same also with a waterfall. The innumerable points of light that sparkle are seemingly sending out cones of bright streamers to my eye but on the ground glass we see only patches of light of various shapes.

In looking at the picture on the ground glass, look at the glass from slightly to one side so that you will simply see the picture, for if the eye is right behind the glass the rays from the light point will come *through* the glass to the eye and so spoil the experiment.

I find that there is hardly anything that I see that has not some *sparkle*

and that the beauty is greatly due to that same sparkle. The "great white way" without the sparkle would be as tame as a house cat.

"And the sheen on their spears
Was like the stars on the sea,
When the blue waves roll nightly
On deep Galilee."

But the camera could not find the "sheen on the spears" or the brightness of the stars on the sea, for that is all furnished by the eye.

"I see the waves upon the shore,
Like light dissolved in star-showers
thrown."

but the star showers are tame to the camera.

"All at once in air,
Flashed all their sabres bare."

But it is the eye that sees the brightness of the flashing; the camera sees it not.

"I marked the lofty beacon light,
Stream from the church tower, red
and high."

Streams; that's just how it appears to the eye.



A CHAT ABOUT FINDERS

AS soon as cameras came to be held in the hand, and the exposure made without an examination of the image on the ground glass, it became obvious that some method would have to be employed which would enable the accurate inclusion of the subject to be assured. Quite a variety of devices were tried, and though many of these are not now in common use, they are all available in certain cases. We may classify finders under three headings: *first*, those which indicate the image and its definition—that is, finders which focus in unison with the camera; *second*, those which merely show an image corresponding in angle of view with the camera image; *third*, those which indicate the central object or the center of the view only. Of these types those included under the second heading are by far the most common.

Taking class one first, we have two well-marked forms, the *reflex* and the *twin lens* camera. Both show an image the same size as the negative will be, and in both cases can focussing be done with perfect accuracy up to the moment of exposure. Herein lie the advantages of these two forms, that, given good eyesight and a proper arrangement of the focussing hood, no one need ever have an out-of-focus picture or one which includes less than the desired and arranged for quantity of subjects. Focussing and selection are both as certain as with a stand camera with its ground glass screen and focussing cloth. There are, how-

ever, one or two points which must be mentioned if the best results are to be obtained with these forms, and the first is that accuracy of workmanship in the construction of the camera is, in either case, essential. For example, in the twin lens camera we have practically two cameras, one above the other, but the upper one is fitted with a mirror, so that the image is reflected upwards on to the horizontal ground-glass focussing screen. This mirror and the screen need accurate adjustment, in order that the focussed image and that thrown by the other lens on to the plate at the moment of exposure may be absolutely identical in size and definition. The two lenses require to be accurately paired, and it is a good plan to have the iris diaphragms linked up so that the focussing lens may be stopped down when the working lens is stopped down. The exact effect is then seen, and if the distance is required in softened definition this may be done with certainty. The twin lens instrument, on account of its bulkiness, has been somewhat superseded by the reflex in recent years, though the cost of the pair of lenses is usually more than made up by the elaborate mechanism of the reflex camera. It has, in fact, been thought that a good reflex could not be placed on the market at a low price, and it is only within the last year or so that any reflex instrument of reliability and first-class workmanship has been available at a popular price.

The comfort of working with either

form of camera largely depends on the focussing hood which is erected over the horizontal ground glass screen. This should be fairly long and close fitting round the eyes and over the nose, so that light from above is excluded from the screen when focussing is being proceeded with. Theoretically it would be better if each hood were made for its own user, for the length could then be adjusted to the length of sight, short-sighted people needing a short hood, and so on. This method would be expensive, and would have other disadvantages as well, and the difficulty can be got over quite well by the introduction of a simple pair of eyeglasses in the top of the hood, coming quite near to the eyes. The glasses must be adjusted for the user, of course.

The second type of finder is represented by two forms, the *ground glass* or real image finder, and the *brilliant* finder, which gives what is called a virtual image. The latter is by far the most common. It is easier to see the image in a brilliant finder than in a ground glass one, and the majority of people prefer ease of working to accuracy. The brilliant finder, especially in its cheaper forms, is very likely to give inaccurate results, unless it is viewed from a point exactly above it. The errors are not, perhaps, very serious, except in cases where there is very little margin for error—that is, in cases where the view required goes very near to the edges of the film or plate. It is sometimes charged against the brilliant finder that it gives rise to under-exposure, that the brightness of the image is such that one is led to think the light is better than it really

is. Of course, if an exposure meter is used there is little likelihood of this mistake occurring.

With both ground glass and brilliant finders the hooding of the finder is a great advantage. We remember certain of the early box-form hand-cameras were thought well of because the finders were so deeply sunk. In some instances the finder was two or three inches down, and this sinking ensured the adequate shading of the image. The modern tendency towards the extreme of portability prevents anything of this kind being done with the smaller and lighter instruments, but in the case of box-form cameras there would appear to be little reason why finders should not be so sunk. The only objection that could be brought against the method is that the deep sinking allows an accumulation of dust, which is difficult to get out.

Both these forms of finder should be as large as convenient. It is always easier to see the image in a finder one and a half inches square than in a tiny little thing about three-eighths of an inch. Of course, we are not suggesting a large finder on a vest-pocket camera, but many instruments of quarter-plate size are capable of carrying much larger finders, and would, if so fitted, give improved results.

Many of the better makes of camera have the finders specially marked for the lens in use. It is really almost as important to do this as to engrave accurately the focussing scale for each instrument. But every worker should test for himself the angle of view, and ascertain whether the finder tells the truth as to what will be recorded on the plate. To do this, two white sticks may

be placed in the ground and moved about so that one comes exactly at each edge of the finder. Thus the view recorded will be that seen between the two white sticks. Then a photograph may be taken, or, if possible, the image examined on a piece of ground glass placed in the focal plane, and the two sticks should appear just on the edges of the plate or the image. In the same way the top and bottom edges may be tested by placing the camera so that the top of some building comes just to the edge of the finder, and laying one of the white sticks on the ground just in the view. Of course, in making these tests the camera must be supported on some firm support, screwed on a tripod for preference. In no other way can the test be made with any degree of certainty.

We have referred to this type of finder as one showing the same angle of view as the lens, and the method we

have just given of testing the finder is to make sure of this correspondence; but the accurate adjustment can only be made when the lens is focussed for one specific distance. Thus if the adjustment is made when the lens is at infinity there will be an error when some very near object is focussed, for the angle of view will then be somewhat narrower. In practice this discrepancy is so slight as to be negligible. But the direct-vision form of finder is one which enables the angle of view of the finder to be adjusted in perfect correspondence with the angle of view the lens is embracing. Further, the finders in type one show automatically the effect of raising the lens to cut off foreground or include the upper part of a building, but the ground glass or brilliant finders, as a rule, do not do so. It is true that some few ground-glass finders have been fitted with a rising lens, and that brilliant finders have



REFRESHMENT

R. R. Sallows

been arranged to tip up in such a way that agreement may be obtained between finder and plate images, but these are the exceptions. Now, the advantages of the direct-vision finder in its simplest form are that it is accurate as regards angle of view, and, as regards raising to the front, that the view is seen naturally—that is, not reversed laterally, as is the case with other finders, and that the view is never blurred by rain or sea spray, as so often happens with the glass finders of type two. All that is needed is a wire frame the exact rectangle of the effective size of the plate—say, 4 ins. by 3 ins. in the case of a quarter-plate. This frame must be attached to the front of the camera, which carries the lens. To the back carrying the plate must be attached a pointer. The wire rectangular frame may with advantage have cross-wires, so that the pointer may be sighted in line with the crossing of the wires. Now, obviously, when the front is racked in or out, the frame travels with it, and as the pointer is exactly above the plate the distance between pointer and frame varies, just as that between lens and plate does, these distances being always equal to each other. So, too, when the lens is raised the wire frame is also raised, and shows under these conditions just what view is to appear on the plate.

Another form of direct-vision finder makes use of a concave lens, either double concave or plano-concave. In the hands of experts this may come under the type two group, but more usually it belongs to type three, for it requires that the eye shall be placed at exactly the right distance if it is to show with accuracy the angle of view. Most usually it is simply employed to show what is appearing on the centre of the plate, or, in other words, to ensure that the principal object shall come on the center of the plate, the worker relying on his experience of the instrument to get at the proper distance from the object, so as to include everything he requires.

It sometimes happens that with a camera fitted with one of the reflecting types of finder it is required to work with extreme rapidity, and in such cases the camera must often be pointed at the object without using the finder proper, simply sighting along one corner as the camera is lifted up, and at the moment of exposure. It is, in point of fact, surprising how accurate one's aim may be if there is no hesitation about the matter. A tube on the top of the instrument, or let into it, if of sufficient diameter, would form an excellent sighting finder, and one which would make it almost impossible to miss the chief object of the subject.—*The Amateur Photographer.*

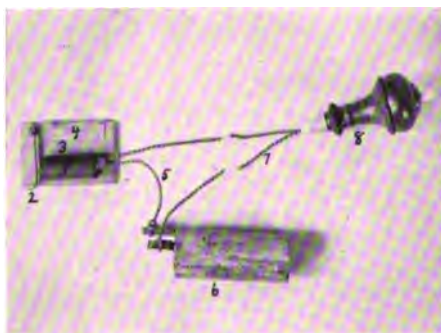


AN ELECTRIC SHUTTER RELEASE

CAMERA users often desire to take pictures including themselves, or of subjects, such as wild animals and the like that can only be taken while the photographer is concealed at a distance from the camera. This requires a long distance shutter release, and for this purpose an easily constructed attachment has been devised that can be used to release the shutter from any distance, by means of the current from a small pocket dry battery.

battery with one wire of the magnet. A wire of sufficient length to reach the desired distance from the camera is attached to the other wire of the magnet, and another wire of the same length is fastened to the other pole of the battery.

A rubber band (9) is slipped over the finger release of the shutter, the other end being slipped over any convenient nut on the camera in such a manner that it gives sufficient pull to draw down the finger release, thus



The device releases the shutter as soon as contact is made by a push button, or otherwise, and consists of a small electro-magnet (1) fastened to a wooden base (3) as shown in the illustrations. To this base is also fastened a pivotal metal hook (2) in such a manner that it is easily drawn over the pull of the magnet. This device is fastened to the top of the front board of the camera by means of a strip of tin bent in such a way that it forms a clamp, (4). A short length of wire (5) connects one pole of the

opening the shutter. The release is now drawn up and held in this position by the metal hook (2). As soon as the current passes through the magnet the hook is drawn over, releasing the finger release, and the rubber band instantly draws it down, thus setting off the shutter at the instant the button is pressed, or contact made in some other way. When everything is connected one can retire to any distance from the camera, limited only by the length of the wires, and at the vital moment make the exposure. This electrical re-

lease can be put to many other uses by the ingenious photographer, such as trapping with the camera, by having the contact in the form of a trip which

is set off by the animal in front of the camera, or used in conjunction with an electrical flash lamp it will set off both shutter and flash simultaneously.

A USEFUL METHOD FOR HIDING DEFECTS IN SKIES

IT unfortunately frequently happens that some of the most artistic negatives are marred by some defect in the sky, which will show in the print. The following method will be found very useful, not only when the sky is defective from marks, but when it is necessary to introduce a little light into a sky unnaturally thin and gray.

Gum to the back of the negative a piece of tracing-paper of the right size, taking care to get it perfectly smooth. Now with a very soft and black drawing-pencil work rapidly on the paper over the defect, making the lines take every direction until indefinite fleecy clouds are formed. More pressure must be used just where the defect is situated, and the edges can be softened off to any extent. In the hands of those who do not work with the brush this method will give more softness, and will be found more manageable than India-ink. When it happens that the sky is too uniform in tint, a few lines rapidly made, and lightly touched, will do wonders in improving the effect of the negative.

Sometimes it is necessary to make a sky a trifle darker in places where it is too white. In such a case gum tissue-paper at the back, and then dip the finger in paraffine oil, and after wiping off that which is superfluous, rub rapidly on the parts it is desirable to darken. If there is not much paraffine on the finger the edge will not be so abrupt. By the employment of the pencil afterward very effective clouds can be introduced with a sky hopelessly blank.

This method will also be found very efficient for vignetting where a special form of vignette is required. The paraffine should be applied freely to the tissue-paper just where the first softening off is desired, and the pencil can be made to complete the gradation. It may be necessary to have cardboard outside, but cotton-wool will not be needed, and thus the general shape of the vignette will not be altered.

With a little taste, most artistic results can be produced, both in landscapes and portraits, by the employment of this method.





CURRENT EVENTS *and* EDITORIAL COMMENT

AFTER the vacations, returning home with a full bag of exposed plates, most of us are greatly tempted to rush through the developing of our plates in a wholesale non-discriminating manner. Were we always quite sure that the best possible had been obtained in the matter of exposure, then lack of wholesale development might prevail, and give us the best average. But it so often happens that errors of judgment or circumstances have limited us in some way. After development we see that a little more personal attention to this or that negative would have made an appreciable difference. Then, again, just at first—after being out of the dark room for a few weeks—our judgment is not quite so keen as it is after a number of negatives have been developed and printed. Past experience leads us to advise that just at first, at any rate, one should develop a few plates, either singly or in quite small batches; let these dry, and take a print or two before completing the remainder of the exposures.

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Another “after-vacation hint” is a word of warning against the risk of using stale solutions. This does not imply that a few weeks keeping means

wholesale spoiling of all one's solutions. Some stock solutions, like rodinal, paramidophenol, etc., seem to keep well for a very long time; on the other hand, we feel shy about using solutions of soda sulphite or carbonate that have been made up longer than two or at the most, three weeks. In any case, we do not favor making up solutions or anything in great quantity that one uses in development, as all developers work better when freshly dissolved. Moreover, making up only such quantities as are likely to be used up within the month makes for economy, as well as clean-working solutions. In general, it is cheaper to throw away suspected solutions than to risk spoiling exposed plates by using stale developers. We can always renew the solutions, but not always repeat the exposures.

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Next to the error of under-exposure we may place its common companion, over-development. It is a natural mistake to suppose that if a plate has been under-exposed the best treatment we can give it is extra development. But as a matter of experience it is found that if the least exposed parts—the shadow details—do not come out in a moderate time of development

they will not come out at all, no matter how long development is continued. Then, again, if development be continued beyond the stage when shadow detail has come out we get nothing further in the way of picture image, and at the same time are accentuating the contrasts. In the course of time we get the high lights so dense that by the time they are printed through we get the darker parts so intensely dark as to be all one flat and detail-less mass of meaninglessness; shorter printing means shadow detail, but no gradation in the lighter tones. The practical moral is careful avoidance of over-development on the one side or under-development on the other.

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This is, of course, a counsel of perfection. But suppose we err in one or other direction, what then? Provided that all the desired detail in the shadows has put in an appearance, then under-development is only a matter of insufficient density contrast. This can be corrected by adding more dense material to that already in existence by the ordinary process of intensification. If we err here, then, we can remove the excess of added material (by the uranium process we can bring back the negative to its original condition quite easily). But, on the other hand, over-development means that we must remove some of the material, and if, in error, we remove too much we have no means of compensating for the error. Thus it is easily seen that it is safer to intensify than to reduce a negative. Whence it follows that, provided we have got out all the shadow detail, it is better to

under-develop than to over-develop. Also a soft contrast negative offers us a greater range of after-treatment than does a hard-contrast one.

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Unless the worker has had considerable experience it is quite advisable for him to take a trial print before attempting anything in the direction of after-treatment. If economy of material is a consideration, he need not use a full-size sheet. A quite small piece will suffice—not more than a quarter the size of the negative—provided that this is large enough to include a piece of the densest and a piece of the thinnest parts of the negative, so that we may have the two extremes of the printing scale at one printing. Such trial prints are of great assistance, first in classifying the negatives into those which require intensification—much or little, as the case may be—and those that require reduction, which is always a process that calls for cautious treatment.

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Chance or coincidence has brought under our notice during the last few days quite a number of out-of-focus prints which, curiously enough, illustrate various causes for a similar result. As this trouble seems to be a feature of the moment, it may serve a useful purpose to point out those symptoms which help us to diagnose the cause of the trouble. If all the parts and planes are out of focus we may suspect that the camera moved at moment of exposure. In that case the blur probably will show more in one direction than another, according as the camera was moved up or down, or sideways.

The general trend to smaller rather than larger pictures has attracted a good deal of attention. One reason no doubt is to be found in the growing tendency to use smaller cameras of the pocket type. General experience goes to show that when we enlarge a negative of the average type beyond some four or five liameters (4 by 3 to 16 by 12, or 20 by 16) we are apt to get a gritty or granular effect that is far from pleasant. But to-day one hears the quarter-plate being called a large size of hand-camera. The $3\frac{1}{2}$ by $2\frac{1}{2}$ plate is far more popular as a pocket instrument, while still smaller sizes are coming into vogue. If we enlarge the $3\frac{1}{2}$ by $2\frac{1}{2}$ plate to the above-named degree we only get a 14 by 10 or 17 by 12 print. There are other considerations which have to be taken into account. When the picture is on a small scale we may easily accept and pass over undesirable features which are so small that they pass without becoming irritating, but these same features enlarged, say, fourfold, may become quite unacceptable. Thus, the sail of a boat seen on a quite small scale may at times pass as a small patch of blank white paper, but the same object occupying a noticeable extent of the picture space becomes offensive if presented as a conspicuous patch of blank paper. The same applies to small and large patches of black. Again, if some subjects (compositions) are enlarged beyond a certain degree, the pictures "fall to pieces," as the saying is. On the other hand, there are some compositions which, seen on a small scale, have a niggling appearance, but when enlarged to a suitable degree are greatly

benefited by being "opened out." Thus each case has to be treated on its merits—no hard-and-fast rules of procedure can be laid down. Again, one has to take into account the size and lighting of the room where the picture is to be hung. In a large and well-lighted gallery we can accept a much larger and bolder picture than is entirely welcome in a small apartment in a somewhat softened and subdued light. These considerations by no means exhaust the considerations entering into this matter, but they may serve to show that the size of the picture and degree of enlargement best suited to it is not a question to be dismissed in a moment.

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A PICTURE SAVER

Many of us are careless, and especially so when it comes to minor incidents in our every-day living. We may take a remarkable picture with our camera, and while talking to our companion—or even without a companion for an excuse—forget to turn our film. Of course our next picture goes on the one we have already taken, and we lose them both.

A few inventions have been made to uncover some device to aid the careless photographer in saving his pictures. Some of the more advanced ideas have been mentioned in THE TIMES, but this is new and has, as yet, never been brought to public notice. Mr. P. J. Besosa, of New York City, has already applied for a patent for a "Picture Saver," an ingenious device quite novel in its very essence. He leaves the old idea of trying to apply some form of lock to

the film spool, and diverts his efforts to the shutter, in connection with turning of the film. There is a very delicate mechanism which touches the film, as it is rolled, and from this a cable connected to the shutter exposure-arm. After a picture is taken (the exposure may be either time or instantaneous), the exposure-arm of the shutter is locked, so that it is impossible for one to again expose the already taken picture. This lock can only be released by turning the film for the next exposure.

☆ ☆ ☆

On page 285 of our July issue, we published an article by Charles I. Reid on "Using the Tripod." It has been brought to our attention that this same idea by C. A. Conradi, was published in the January issue of *The Camera*, and we are glad to give Mr. Conradi full credit for the originality of this method of using the tripod.

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The August issue of *Portrait* contains among other useful information a very suggestive and helpful article by Sydney Allan on "The Treatment of the Neck." This is the tenth of the series of "The Features of the Human Face." Copies will be supplied by writing the Ansco Company, Binghamton, N. Y.

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The Goerz American Optical Company recently issued two very attractive booklets on their Lenses and Cameras. These contain a great deal of good solid information for the camera user, and if for any reason, your dealer cannot furnish you with a copy, write to C. P. Goerz American

Optical Co., 317 East 34th Street, New York City, who will be glad to supply you.

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PRACTICAL CINEMATOGRAPHY AND ITS APPLICATIONS, by Frederick A. Talbot. With 93 illustrations. 262 Pages. 12mo. Cloth. \$1.00 net. Postpaid, \$1.10.

Motion pictures have entered so much into the needs of the world's amusement and instructions that both professional and amateur photographers will soon find that a knowledge of the art of making pictures must be a part of their every-day equipment. This is practically the only authoritative work on the subject, and covers all the processes of motion picture work simply and thoroughly and in a non-technical manner.

The book has been written, moreover, with the express purpose of assisting the amateur who is attracted toward cinematography. It is not a technical treatise, but is written in such a manner as to enable the inexperienced to grasp the first principles of the art, and the apparatus employed in its many varied applications.

At the same time the volume will also prove of use to the expert hand, by introducing him to what may be described as the higher branches of the craft.

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A BOOK ON THREE-COLOR PHOTOGRAPHY
THREE-COLOR PHOTOGRAPHY: WITH
SPECIAL REFERENCE TO THREE-
COLOR PRINTING AND SIMILAR PRO-
CESSES,

is the title of a book by Arthur Von Hubl, director of the Research Depart-

ments of the Royal Imperial Military Geographical Institute in Vienna, translated by Henry Oscar Klein. The first German edition of this work appeared in 1907, and it was probably the first work published which entered into all the details concerning three-color photography.

This work has been largely rewritten since the first English edition appeared in 1904.

During the ten years which have since elapsed, important additions have been made to our knowledge of color sensitizing, whilst complicated processes have been simplified, and have become the foundations on which prosperous businesses have been established.

Three-Color Process Work, once a monopoly of one or two firms, which are now long extinct, has become the property of all. This is chiefly due to the influence of standard works on Color Photography, of which Hubl's "Three-Color Photography," is a classical example, and to the efforts of numerous excellent technical journals in disseminating knowledge of the processes involved.

The book is published by A. W. Penrose & Co., Ltd., 109 Farrington Road, London, England, and sells for \$3.50 a copy.

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NOTES FROM THE ILLINOIS COLLEGE OF
PHOTOGRAPHY

At the National Convention of the P. A. of A. held at Indianapolis, July 19-24, there was a large representation of the students and former students of the college, seven having had pictures accepted. Mr. Edward Weston,

student of 1908, was successful both at this Convention, and at the one in 1914, in having one of his prints chosen for the Salon.

☆ ☆ ☆

THE SPELL OF THE HOLY LAND, by Archie Bell. The Page Co., Boston, Publishers. Price, \$2.50 net.

Of all places in the world, the one above others which without visitation casts a charm over us is the Holy Land. This is accounted for by our earliest teachings, and the happenings and promises of life eternal made therein through the Saviour of Mankind.



"The Street called Straight," Damascus

Mr. Bell's journey has probably been undertaken by others with as much thoroughness, and we do not doubt that they were as much under a spell even though the hotel accommodations for tourists are very poor. This feature is being rapidly improved. The facilities for travel are very crude, the conveyances primitive and the roads in most cases

wretched. But with all these discomforts the pilgrim will travel on, subjecting himself to inconveniences that he may see further more of the places made holy through association with Him, the Son of God, and his sojourn here on earth.

The itinerary of this journey is from Egypt to Jaffa, Judea, Jerusalem, Bethlehem and the surrounding country of each. The text is written in such manner as will hold the attention of all as the record of the journey is revealed. The book contains twenty chapters, bibliography and index, a map in colors, and forty-eight illustrations, eight of which are in color. A most interesting book for all and especially so for the student or teacher.

☆ ☆ ☆

PRACTICAL PHOTOGRAPHY

is the name of a new series of photographic books which treat of various photographic subjects of present-day interest in a thorough and practical manner. Each one gives all the information on its subject which seems to the editors to be worth the attention of the average worker. The books are well printed, sewed to open flat, illustrated when necessary, and will fit the pocket. They sell at 25 cents in paper and 50 cents in cloth, and you can get them from most photographic dealers. Two are ready now.

THE SECRET OF EXPOSURE

is a thorough guide to exposure under all conditions, and will enable you to make perfect negatives every time. All the factors of exposure are fully explained, exhaustive tables given, and the use of meters thoroughly gone into.

BEGINNER'S TROUBLES

contains some hundred practical paragraphs on how to make perfect negatives and prints, written from long experience and useful to every photographer. If your dealer does not have them, we will send them postpaid on receipt of price.

☆ ☆ ☆

THE INDIANAPOLIS CONVENTION

One of the largest and best conventions ever held by the Photographers' Association of America closed July 24, at Indianapolis, with the selection of Cleveland for the 1916 meeting and the election of the following officers:

President, L. A. Dozer, Bucyrus, Ohio; First Vice-President, Ryland W. Phillips, Philadelphia, Pa.; Second Vice-President, Homer T. Harden, Wichita, Kan.; Treasurer, R. W. Holsinger, Charlottesville, Va. Mr. John I. Hoffman retains the position of paid secretary.

The Women's Federation elected the following officers: President, Maybelle Goodlander, Muncie, Ind.; First Vice-President, Clara Louise Hagins, Chicago, Ill.; Second Vice-President, Mamie Gerhard, St. Louis, Mo.; Secretary-Treasurer, Bayard Wootten, New Berne, N. C.

Certificates for the permanent exhibit were presented to Mary L. Smith, Binghamton, N. Y.; Pearl Grace Loehr, New York City; Miss Meade, Atlanta, Ga.; Gerhard Sisters, St. Louis, Mo.; E. E. Doty, Battle Creek, Mich.; Joe Knaffl, Knoxville, Tenn., complimentary recognition; Rembrandt Studio, Philadelphia, Pa.; C. R. Reeves, Anderson, Ind.; J. L. Sipprell, Buffalo, N. Y.; Edward Weston,

Tropico, Cal.; Victor Georg, Chicago, Ill.; Titus & Burnell, Buffalo, N. Y.; Hoover Art Company, Los Angeles, Cal.; J. C. Strauss, St. Louis, Mo.; James W. Porter, Youngstown, Ohio; J. A. Bell, Cincinnati, Ohio, and Stricker Studio, Pittsburgh, Pa.

With about fifteen hundred paid members and a convention attendance of over twelve hundred, the P. A. of A. seems in the most flourishing condition it has ever enjoyed, and the general good feeling and spirit of cooperation prevailing among the members point to the fact that the prosperity and success of the organization are not measured by numbers alone.

The manufacturers' exhibits were displayed at The German House, a clubhouse frequently used for convention purposes, and the business meetings were held in the auditorium.

★ ★ ★

TIPS FOR THE AMATEUR.

Dip corks in melted wax before corking up chemicals and they will be easy to remove, and will keep the chemicals air tight.

A convenient way to keep ortol, metol, etc., is to weight it out in small amounts—say, ten grains—and put it in large size capsules. Return these to the original bottle and keep tightly corked. One or more capsules can be turned out in the hand without exposing the rest to the air.

A medicine dropper is almost indispensable in the dark room, but it is rather aggravating to try to use ordi-

nary straight dropper in a large bottle. However, the dropper with the tip bent at a small angle will get at the last drop of chemical no matter how large the bottle. A mixture of one part salt, one part bicarbonate of soda, and two parts common wood ashes will clean brass, enamel or rubber. Rinse well and dry thoroughly.

C. B. P.

★ ★ ★

DARK ROOM HELPS.

A cloth folded several times placed under the trays used in developing will absorb all spilt chemicals, thus preventing rivulets from ruining carpets or clothes.

If one should have an incandescent electric light in the dark room, a dandy developing light can be made by covering bulb with the black paper that comes with plates and paper, first cutting a hole the size of a dollar on one side. Now cover the black paper with ruby fabric, fastening both papers securely with rubber bands. The light with the ruby fabric alone would be too strong for safety.

If the hands are washed after each immersion in developer, using a large size crystal of citric acid freely instead of soap, there will be little danger of staining.

Thrust two pins crosswise through the corks of all poison chemicals so the point will stick one if they should try to remove the cork. Then should you carelessly leave it in baby's reach, it will let it alone.

G. B. P.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

RATES FOR DISPLAY ADVERTISING SENT ON APPLICATION

THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,

135 West 14th Street, New York

HANDY REDUCING PASTE

QUICKEST and SAFEST

For accurate local work on a DRY NEGATIVE

1 Box and Directions, 30 cents

L. C. BISHOP, 508 Dean Bldg., South Bend, Ind.

STUDIO FOR SALE in Eugene, Oregon. Best located—best studio in town; 11 x 14 outfit; large skylight and large operating room. Large electric flash skylight for night work. Other business demands attention.

THOMPSON BROS.

Photographers Sell Post Cards from your negatives. Put them in the stores, there is money in it. **YOU HAVE THE NEGATIVES, WE WILL MAKE THE CARDS**

100 from 1 negative, \$ 2.00	from 5 to 10 negatives, \$ 3.25
300 from 1 negative, 4.20	from 5 to 10 negatives, 6.30
500 from 1 negative, 6.25	from 5 to 10 negatives, 8.00
1000 from 1 negative, 10.00	from 5 to 10 negatives, 12.50

Delivery from 3 to 5 days, return postage 10 cents per 100
Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens in cells, with case, will cover 5 x 7 plate wide open, \$18.00 post paid.

We take cameras, lenses, etc., in exchange.
Ask us before buying.

WRIGHT PHOTO SUPPLIES RACINE, WIS.

EXPERIENCED LADY PHOTO-GRAPHER desires position. Commercial or studio. Receptionist, spotting and office assistant. Stenographer. References.
Address EXPERIENCE, Photo Times.

STOP! LOOK!

Our New No. 19 **BARGAIN LIST** which is now ready is better than ever. Contains some startling values in Cameras, Lenses and Photographic Supplies. Imported Ica and Butcher Cameras. Headquarters for Cyko Paper.

Write today for **FREE COPY**
NEW YORK CAMERA EXCHANGE
111½ Fulton Street, New York

BARGAIN LIST 127

NOW READY

GREATEST EVER!

WILLOUGHBY & A SQUARE DEAL

810 BROADWAY, NEW YORK CITY

Hurd's Lawn Finish is the finest type of the fashionable fabric papers. Its quality is the best; it is beautiful in appearance, and the writing surface is exceptionally pleasing.

Hurd's Suede Finish represents the best quality in the medium smooth finish, and is much in fashion. It is also the finest wedding paper made. We carry a large stock of these fine papers.

STYLES & CASH,
135 West Fourteenth Street,
New York.

KEEP yourself posted. Read all the advertisements in this issue carefully—and don't forget to mention **THE TIMES** when you write.



Learn a Paying Profession

that assures you a good income and position for life. For 20 years we have successfully taught

PHOTOGRAPHY

Photo-Engraving and Three-Color Work

Our graduates earn from \$20 to \$50 a week. We assist them to secure these positions. Learn how you can become successful. Terms easy—living inexpensive. Write for Catalogue—NOW.

ILLINOIS COLLEGE OF PHOTOGRAPHY
967 Wabash Avenue, Effingham, Illinois

SEND US the names of your friends who are interested in photography—we want to send them a sample copy of **THE PHOTOGRAPHIC TIMES.**

Practical Photography

is the name of a new series of photographic books which will treat of various photographic subjects of present-day interest in a thorough and practical manner. Each one will give all the information on its subject which seems to the editors to be worth the attention of the average worker. The books will be well printed, sewed to open flat, illustrated when necessary, and will fit the pocket. They will sell at 25 cents in paper and 50 cents in cloth, and you can get them from most photographic dealers. Two are ready now.

THE SECRET OF EXPOSURE

is a thorough guide to exposure under all conditions, and will enable you to make perfect negatives every time. All the factors of exposure are fully explained, exhaustive tables given, and the use of meters thoroughly gone into.

BEGINNER'S TROUBLES

contains some hundred practical paragraphs on how to make perfect negatives and prints, written from long experience and useful to every photographer. If your dealer does not have them, we will send them postpaid on receipt of price.

American Photographic Publishing Co.
435 POPE BUILDING, BOSTON, MASS.

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WHITING PAPER CO.

Lafayette and Howard Streets . . . New York

Mills · Holyoke, Mass.

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

Three Thousand Dollars for Pictures.

No one knows the Kodak more intimately than the Kodak amateur. The only way any of us can know a thing thoroughly is from experience and it is by actual experience, day in and day out, that the amateur knows his Kodak. He has learned the various features that distinguish it—its simplicity, its dependability, and he has discovered the many uses to which it may be successfully put. And so the advertising contest of the Eastman Kodak Company offering \$3,000 for photographs illustrating Kodak advantages or picture-taking delights is of particular interest to the Kodak amateur—and Kodak amateur means *you*.

You would be perfectly willing to admit that the combination of your experience, brains, and Kodak had a very real value to you. It may be worth something to us—as much as five hundred dollars, perhaps. In any event, the time spent in preparation for the contest will be anything but wasted. You will find it interesting and a line of work with which any Kodaker can well afford to become better acquainted.

The contest this year is being conducted along unusually interesting and definite lines. Pictures are desired illustrating any of the five slogans: "Take a Kodak with you", "All outdoors invites your Kodak", "There are no game laws for those who hunt with a Kodak", "Let the children Kodak", and "Write it on the film at the time". For the picture best illustrating each slogan, three hundred dollars will be awarded, for the second best, two hundred dollars. In addition,

there is a special cash prize of \$500.00 for the best new slogan together with a picture illustrating it. Here is an opportunity for absolutely original work, interpretative and inventive as well.

It is quite probable that, besides the prize winning negatives, others of particular merit will be purchased. If this is the case, special arrangements will be made.

It is readily apparent that we do not intend to pay hundreds of dollars for simply good, or merely pretty, pictures. They must have merit pictorially, of course, but as they are to be used for advertising purposes they will be judged largely from an advertising view point. Will this picture help sell Kodaks? That is the real test. Kodak advantages or photography's pleasures must be so visualized that they connect up with the Kodak idea. Study the illustrations of the Kodak advertisements in the magazines and you will see what we mean. You will find that each of them, even apart from the text, has a real advertising value and that the idea is presented in such a big way that you can't escape it.

A circular giving all the details of the contest will be mailed on request.

The contest closes November 1st, 1915.

The Eastman Film Negative Album
will preserve your vacation negatives
against injury or loss.

THE PRICE: \$0.75 to \$1.50 according to size.

EASTMAN KODAK CO., ROCHESTER, N. Y.

At your dealer's.

(1)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

ELIMINATE GUESS-WORK TEMPERATURE.

There is always a certain temperature at which a photographic solution does its best work.



Thermometer
Stirring Rod.

You may get fair results for a time with guess-work temperature but sooner or later you are going to find yourself knee-deep in trouble. In developing film, for example, a too cold developer, while prolonging the time of development indefinitely, may also tend to break down the proper relationship between the shadows and high lights. A too warm developer is quite apt to produce flat negatives. In paper development, too, a cold solution detracts from the brilliancy of the print while a warm solution leads to stains. A good thermometer costs but little and with its use all guess-work is eliminated. You *know* the solution's temperature and can prevent fluctuations this way or that with ice or warm water.

With little or no trouble you will be able to keep the temperature at the exact degree specified in the directions—the point where the solution will do its best work.

We manufacture two thermometers that are of particular interest to the amateur because they are especially constructed for his use and will be found both convenient and reliable.

The Eastman Thermometer is equally valuable for tank or tray development. Its construction of curved back with a hook at the top makes it most conven-

ient to handle. The Thermometer Stirring Rod, as the name implies, performs a double service. You always know the temperature of the solution you are stirring. One end of the rod is flattened for the crushing of chemicals.

Either of these thermometers is, of course, absolutely accurate and will do its full share in eliminating possible trouble.

The Price.

Eastman Thermometer, - \$.50
Thermometer Stirring Rod, .60



Eastman
Thermometer

FLASH LIGHT WORK SIMPLIFIED

Some amateurs are always going to take up flash light work and each year sees them equally determined but just as far from action as ever. The real cause of their hesitancy is their suspicion that flash light work is of such a delicate nature that its proper execution may well be left to the expert.

There is just one treatment for this sort of amateur the administering of which might well be termed a "friendly act". Lead him down to his dealer's and provide him with a copy of the free booklet, "By Flashlight" published by the Eastman Kodak Company and authoritative to the smallest detail. Then one of two things is bound to happen. Either the amateur will neglect to read the booklet or he will become, at once, an enthusiastic flash light operator.

(2)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

Flashlight work, always a fascinating branch of photography, has been so simplified through the agency of the Eastman Flash Sheets and the Kodak Flash Sheet Holder that all the information necessary for successful flash light work is easily included in this one little book. The field is covered so definitely that a careful reading puts even the novice beyond the likelihood of failure. Before even the skeptical amateur has read many pages he begins to realize this and a couple of evenings of actual work thoroughly convince him.

In one very vital point, flash light work is much simpler than that of daylight—namely the matter of illumination. In daylight, the sun is master—to a considerable extent, it decides the lighting scheme. In flashlight work, the operator is master—he may have his lighting where he wills—and the quality of illumination is constant.

Eastman Flash Sheets are in a convenient form for handling and give just the right illumination for pleasing results. They are not instantaneous and their broad, soft light doesn't startle the subject. This quality recommends them at once for portraiture. The Kodak Flash Sheet Holder increases both the convenience and usefulness of the flash sheets. It makes the operator's control over his illumination absolute. The Holder also simplifies the matter of ignition as it



Kodak Flash Sheet Holder.
Price, \$1.00.

allows the sheet to be lighted from the back with a metal sheet between the operator and the flash. The sheet also acts as a reflector.

Every good time is a good time to Kodak and how many of our good times occur in the evening. Informal gatherings of all sorts or just the comfortable scene around the fireside or the reading table. Opportunities for good flash light pictures come thick and fast—and such pictures form the cream of many a photographic collection.



With the new

Kodak "Maskit" Printing Frame

the negative and mask are locked tightly together, for one print or a hundred—they *can not slip.*

And such perfect register between the mask and paper is secured that, when standard size paper is used, uniform white margins on all four sides of the print may be obtained—*no trimming is necessary.*

THE PRICE.

Kodak "Maskit," 3¼ x 4¼, opens two-thirds,	\$0.10
Kodak "Maskit," 3¼ x 5½, opens two-thirds,	.45
Kodak "Maskit," 5 x 7, opens two-thirds,	.50

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.

The experience is on the scale.

The Kodak Autotime Scale





The PANORAM KODAKS

The sweep of the Panoram lens commands the whole view—not merely a part of it. Horizontal pictures of landscapes, buildings, out door groups and vertical pictures of high waterfalls, mountains and subjects of like nature may be photographed in their entirety with a single exposure.

No other type of camera can even attempt the work so simply and so satisfactorily performed by the Panoram Kodaks.

THE PRICE.

No. 1 Panoram Kodak for rectangular pictures $2\frac{1}{4}$ x 7 inches,	-	\$10.00
No. 4 Panoram Kodak for rectangular pictures $3\frac{1}{2}$ x 12 inches,	-	20.00

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.

The upper half of the

Kodak Sky Filter

is stained yellow, thus holding back the bright light of the sky against over exposure while the lower half, being colorless, allows the foreground the normal exposure it demands.

With it you hold the cloud effects, at only double normal exposure.

The price ranges from fifty cents to one dollar according to size.

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

At your dealer's.

THE PHOTOGRAPHIC TIMES

PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed September 30th, 1915, so as to be announced in the November Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

Second Prize, \$5.00

Third Prize, \$3.00

And three honorable mention awards of a year's subscription to
THE PHOTOGRAPHIC TIMES.

In addition to which those prints which deserve it, will be Highly Commended.

CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. The subject for this competition is "Outdoor" in landscape or figure.

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

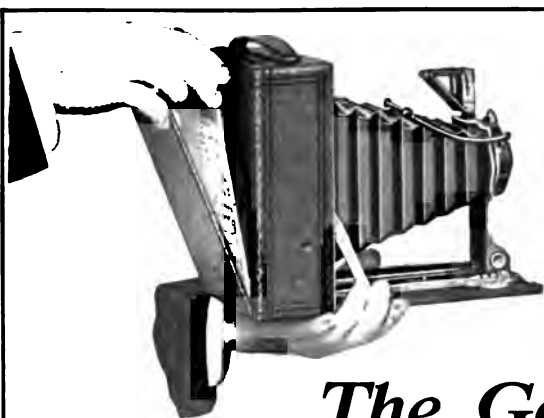
NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received by us not later than September 30th.



Beyond the
Experimental
Stage

The Genuine Premo Film Pack

Twelve years of success and true merit make it the dependable film for film pack cameras. The operation of the Premo Film Pack is the last word in simplicity. No difficulties of any kind to study over or bother you. Film is from the same stock as the Eastman N. C.—the best in the world. It is properly orthochromatic, non-curling, and has speed to spare. One or more films can be removed at any time for development, and the film can be developed automatically in the Premo Film Pack Tank—a tremendous advantage to the amateur who does his own finishing.

Get the Premo catalog describing the Premo Film Pack in detail and the full line of Premo Film and Plate Cameras. Premo catalog free at the dealer's, or gladly mailed on request.



ROCHESTER OPTICAL DIVISION
EASTMAN KODAK CO. ROCHESTER, N. Y.

25 CENTS

WILL BRING YOU THE
*Amateur Photographer's
Weekly*

FOR THE NEXT

3 MONTHS

That means that you will get **13 copies** of a photographic journal that is written from the point of view of the beginner in photography.

You will find more features in the *Amateur Weekly* than in any other magazine you can buy for \$1.50 per year. **Cash prize competitions** are offered every week, articles that you can easily understand, and which will tell you how you can avoid wasting plates and paper, a Print Exchange, many illustrations accompanied by full data, *Ye Olde Curiosity Shoppe*, and many other features.

When you send a print in for competition and want to know how it compares with other prints sent in, we send you a rating card, judging the print for Composition, Pictorial Quality, etc., so that you can find out where your faults lie and improve them. With the new year other features are to be inaugurated of like value to the amateur who wants to improve his photographic work.

We send no sample copies, because the value of a magazine cannot be judged from one copy. 25 cents is a small sum and invested in a three months' trial subscription to the *Amateur* you will find it return a hundredfold. **Send it to-day.**

A three months' trial subscription.....	\$.25
In Canada.....	.38
Regular subscription price per year.....	1.00
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any convenient form of remittance.

The
**Amateur Photographer's
Weekly**

917 Schofield Bldg. Cleveland, Ohio

NEVER TOO EARLY TO GET ACQUAINTED



... WITH ...

GOERZ LENSES

Quality and Reputation are behind **Goerz Goods**. There's a **Goerz Lens** made for almost every camera on the market, and there's a **Goerz Camera** for nearly every photographic purpose.

Your Camera and a Goerz Lens is safe insurance against photographic failure. Make your picture taking a source of pleasure instead of irritation and disappointment. Go to your dealer and ask to see **Goerz Goods**.

For your own information get our booklet 38-B on Lenses or 37-B on Cameras — both if you say so.

C. P. Goerz American Optical Co.
317-B East 34th Street
NEW YORK CITY

"Papers of Quality"

AT THE OFFICE When Ordering Stationery for Business Use, and a Good,
Snappy Bond Paper is Desired at Medium Cost, SPECIFY

EXEMPLAR BOND EDGEWATER BOND
or ELRAS BOND

YOUR PRINTER WILL KNOW

Pictures Mounted With

HIGGINS' PHOTO MOUNTER



Have an excellence peculiarly their own. The best results are only produced by the best methods and means—the best results in Photograph, Poster, and other mounting can only be attained by using the best mounting paste—

HIGGINS' PHOTO MOUNTER

(Excellent novel brush with each jar.)

At Dealers in Photo Supplies, Artists' Materials, and Stationery. A 3-oz. jar prepaid by mail for thirty cents, or circulars free, from

CHAS. M. HIGGINS & CO. NEW YORK CHICAGO
MANUFACTURERS LONDON

Main Office, 271 Ninth Street, Factory, 240-244 Eighth St., BROOKLYN, N. Y., U. S. A.



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LINTLESS PHOTO BLOTting, C. P., DOUBLE HARD

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BEST BLOTting

HIGHLY ABSORBENT

CHEMICALLY PURE

HAMMER PLATES ARE RECORD HOLDERS

Manufactured under most improved conditions from purest chemicals, on new Photo Glass and by workers of the highest skill. Hammer Plates are unequalled for speed, brilliancy and general perfection.

Hammer's Special Extra Fast (red label) and Extra Fast (blue label) Plates for all round work and Hammer's Orthochromatic Plates for color values.



Hammer's little book, "A Short Talk on Negative Making," mailed free

HAMMER DRY-PLATE COMPANY

Ohio Avenue and Miami Street

St. Louis, Missouri

Established 1840.

Incorporated 1892.

Joseph Parker & Son Company

Manufacturers of

TREASURY

COMMERCIAL

and CAPITOL

BLOTTING PAPERS

Made in Highest Photo. Finish
and Chemically Pure.

Whalley Ave., near Dayton St. New Haven, Conn.

“PHOTO FINISH”
“World” Blotting

THE ORIGINAL

THE PUREST AND BEST BLOTTING FOR PHOTO-
GRAPHIC PURPOSES, CHEMICALLY PURE
AND NON-LINTING

For sale by all leading dealers

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The Albemarle Paper Manufacturing Co.

RICHMOND, VIRGINIA, U. S. A.



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Stationers, Engravers
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for the
Office, Societies and Home

Mail Orders receive Prompt Attention
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Established in 1865, and for over Forty years
printers of the Photographic Times

135 West 14th Street, New York



STAMPED

with quality—every pound of printing ink that leaves our establishment: mixed with quality of materials and brains, too. The kind of ink that lessens the worry of the man at the desk—the superintendent—the foreman—and the pressman. We never knew how to make any other kind of ink.

If Sinclair & Valentine Co.'s label is on the can, the contents will please your man.

Send us your order for any special inks—no matter what shades or for what processes—we will guarantee to make them right—*and*—make them satisfactorily.

Tell us your ink troubles and we will disperse them.

SINCLAIR & VALENTINE CO.

Main Office and Factory: 605-611 West 129th Street, New York.

Down-town Branch: No. 168 Centre Street, N. Y.

Philadelphia

Boston

Chicago

St. Louis

Cleveland

Denver

Toronto

THE "PHOTOGRAPHIC TIMES" ALBUMS

FOR UNMOUNTED PHOTOGRAPHS



THESE ALBUMS for Unmounted Photographs are made precisely like the old-fashioned scrap book, with a guard between every leaf. The leaves themselves are made of a gray linen-finished cover paper, extra heavy stock, (weighing 120 pounds to the ream.) The books are bound in Leather backs and corners, with strong Cloth sides. The word *Photographs* is stamped in gold on the sides. These Albums are sewed in the regular bookbinders' style, to open flat, and they are made to stand the hardest kind of wear. We are putting them out over the reputation of the "Photographic Times," and

WE GUARANTEE EVERY BOOK

These Albums contain fifty leaves each, for holding from one hundred to two hundred unmounted photographs, according to the size of the prints. The prices and sizes of these Albums for Photographs are as follows:

No. 1.	Size of leaf, $4\frac{1}{2} \times 5\frac{1}{2}$ inches	-	-	Reduced to	\$1.00
No. 2.	Size of leaf, $5\frac{1}{2} \times 8$	"	-	"	1.20
No. 3.	Size of leaf, 7×10	"	-	"	1.60
No. 4.	Size of leaf, 10×12	"	-	"	2.40
No. 5.	Size of leaf, 11×14	"	-	"	2.80

When ordered to be sent by mail, send 15c. extra for postage for any size up to 8×10 , and 20c. for the two largest sizes

Special sizes will be made to order. If you want an Album for your Photographs that will last as long as the prints do (and longer), let us send you one of these books

Each Album is put up in a strong pasteboard box wrapped inside and out

NOTE:—*Sizes No. 1 and 2 will be discontinued when our present stock is exhausted, order now.*

The Photographic Times Publishing Association, 135 W. 14th Street, New York

OCT. 1915

PHOTOGRAPHIC TIMES

THE
LATEST
MONTHLY
MAGAZINE

PICTORIAL
SCIENTIFIC
PHOTOGRAPHY



THE PHOTOGRAPHIC TIMES PUBLISHING ASSN.
135 WEST FOURTEENTH STREET
NEW YORK, N. Y.

A good print, like a good negative,

is the result of soft, progressive gradations, which interpret correctly in mono-tint the light and shadows and color values of the subject.

Whether black or sepia is a matter of individual preference.

CYKO is the only photographic paper that produces good prints, *both* black-and-white and sepia.

CYKO standardizes print quality in either black or sepia tones.

CYKO, by the way, is the only paper that produces the true sepia—Vandyke brown.

Send for a Sepia Chart
It is yours for the asking.

AnSCO Company

Binghamton, N. Y.

You get free

three essential features when buying an

AnSCO Camera

if price and quality are compared with other makes:

**Exact
Radius
Finder**



**Automatic
Adjustable
Focusing
Scale**



**Safety
Spool-holding
Device**



See pages 12, 13 and 14 of the 1915 AnSCO Catalog

ANSCO COMPANY

Binghamton, N. Y.

When writing to advertisers please mention THE PHOTOGRAPHIC TIMES.

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OUR COMBINATION OFFER

The following Books and Albums with one year's subscription to "THE PHOTOGRAPHIC TIMES" will be supplied at rates as below:

Photographing in Old England	-	-	-	By W. I. Lincoln Adams
Retail Price	-	-	-	\$2.50
THE PHOTOGRAPHIC TIMES, one year,	-	-	-	1.50
				<u>\$4.00</u>
Both for	-	-	-	\$3.50

Landscape and Figure Composition	-	-	By Sadakichi Hartmann
Retail Price	-	-	\$3.00
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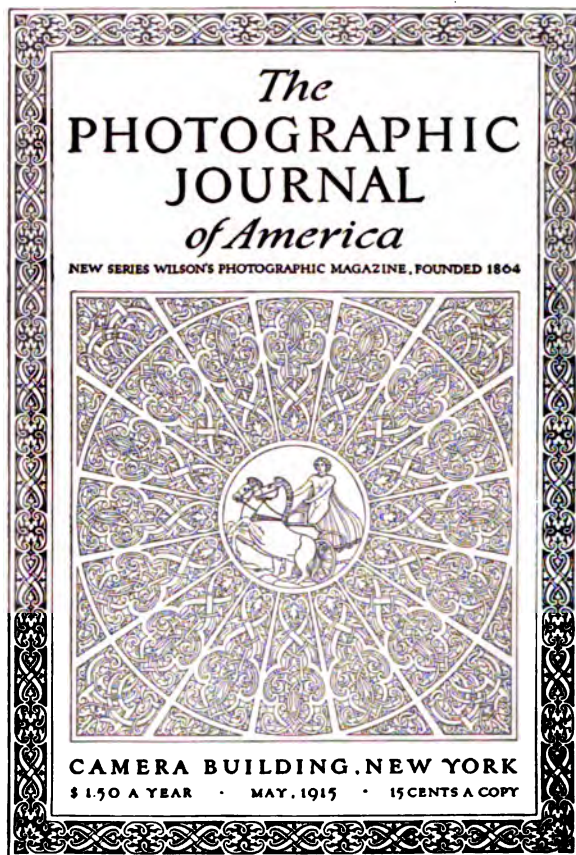
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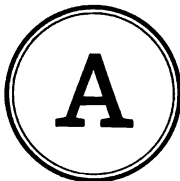
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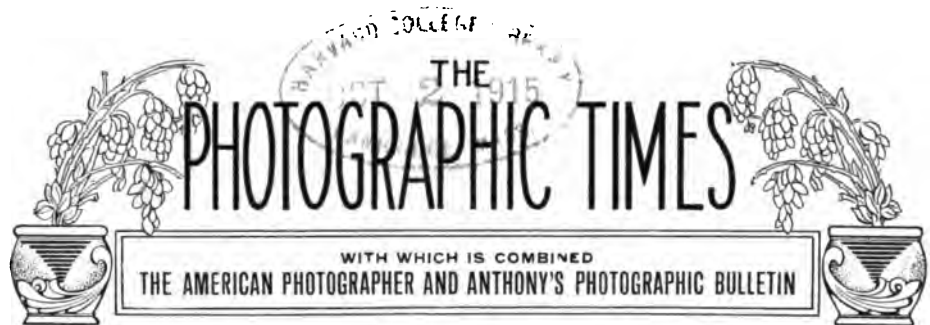
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"CONTEMPLATION"

R. R. Sallows



VOLUME XLVII

OCTOBER, 1915

NUMBER 10

BEGINNER'S LESS COMMON MISTAKES

BY C. H. CLAUDY

In the May issue of THE PHOTOGRAPHIC TIMES my story was concerned with some of the common mistakes of the beginner. As explained therein, no attempt was made to itemize all his common mistakes, questions of space forbidding.

There are, however, a number of things which the beginner soon learns to avoid, and an equal number which he is prone to forget. These latter constitute his less common mistakes—less common than the usual faults of under- and over-exposure, because any beginner worthy of the name soon masters the elementary principles of photography. Possession of the ability to make a good photograph, however, as far as exposure, development and printing are concerned, is but the beginning of the art. In composition, in lighting, and choice of viewpoint, for instance, there are as many ways of going wrong as there are of going right. It is in these three matters, then, that one looks first to find the less common errors of the beginner of a few months' experience—less common that he has more practice, but no

less deadly as far as artistic results are concerned than those almost daily errors of the first exposures, when too little or too much time, movement, double exposure, unnatural attitudes and such things make the photographic road one apparently difficult of successful travel.

In landscape photography a poor composition is perhaps, less common than a fair one—a fine composition is rarest of all. It seems rational, then, to include failures of composition under the heading of the less common mistakes of the beginner.

As seeing is better than argument, consider Figure One, which is from the technical standpoint a very good photograph. It is one which nine beginners out of ten would probably feel proud to have made, and yet it is unsatisfactory from the standpoint of the camera user whose efforts and study have led him to some appreciation of what a real pictorial representation may mean.

Obviously, this pastoral scene has no claims to mere record value. It was not made with the idea of producing



Fig. 1.

an illustration of cows for a cow dealers' catalog. It makes no pretensions to be anything other than what it is—a photograph of cattle on the way to market or on the way home.

Being, then, an attempt at the pictorial pure and simple, it must be judged from pictorial as well as photographic standards. Satisfactory in exposure, development and printing, although somewhat flatly lighted, our first criticism comes from the fact that the interest is scattered and not concentrated. The man in the circus objects to three rings because he cannot see what is going on in all three at once, and in the vain effort to do so, misses much of what is good in all. The beholder of a picture has the same right to demand of the artist a concentration of interest, a leading of his attention into, through and out of the picture, without breaks and interruptions. Here the photographer has ob-

viously taken the picture at the most convenient moment—an easy way to get a photograph, but a poor way to get a picture worthy of being so called. Cows are coming over the bridge, cows are walking down the side road presumably to get a drink, one cow has had her head cut off by the photographer, but gives no indications of knowing it.

The viewpoint of the camera is too low and too much to the left, to give the beholding eye any satisfaction in regard to the bridge. It would have been as easy to get more upon the road, to have avoided the coincidence of the two top rails of the bridge and to have given some idea of receding perspective, by means of the retreating lines of the bridge. Such considerations as these, omitted from thought by any one able to make as good a technical photograph as this, constitute one of the most objectionable of the less



Fig. III.



Fig. V.

common mistakes, and show without further words the real need of some study of the elements of composition by any one who aims to make of his camera anything more pretentious than a mere recorder of facts.

Figure Two is another example of the same thing, though even more pronounced. Here there are no less than three centers of interest—tent, group and tree, and fire.

Now a camp is easily susceptible of interesting treatment—a camp is a simple affair—a tent, a fire, a tree, a wood pile, perhaps, and the human figures. It is easy to arrange so small a number of units into an agreeable composition. The arrangement can usually be effected by moving the one thing easiest to move—the living group, and choosing properly the place to set the camera. Here, however, the

photographer has planted his instrument directly between all three of his objects, shot directly at the center, and produced a result which has no pictorial value whatever, but only a feeling of regret for a lost opportunity.

Yet it is a good photograph, technically speaking, with the exception of the out-of-focus trees. Trees beyond true focus may be full of feeling and very pictorial, but not when they are isolated masses of spots of light and shade, as in this instance. As there was little if any movement to fear in such a composition as this, there appears to be no good reason why the lens should not have been sufficiently stopped down to have avoided this criticism, anyway.

Few departments of photography make a mightier appeal to the beginner than portraiture. None are



Fig. VI.

harder for the beginner. The reason is plain—in portraiture, which is successful, there must be not only first class photography, but a competent and well applied knowledge of lighting, of the dynamics of light and shade, of composition and of pose. It is rare that any one man masters them all—rarer yet when a beginner can satisfy a critic that he has failed in none of these things. But when the beginner has mastered his camera and his photography, it is less common to find him making mistakes in lighting than in pose and composition, so Figure Three properly comes under the title of this tale.

It is a pity to see a good job but half

done, as in this instance. Here is an attractive grouping, a well arranged mass of drapery, an easy, natural pose—and spoiled, pictorially speaking, by the fact that both figures are silhouetted against a blank blackness, both trail off into a blank blackness of the same hue in front and to the side, and both lose all details of hair into the same darkness.

This is unnatural because it doesn't appear so to the eye. It is not possible to place two figures as close to a window as these are placed—a window giving light enough easily to allow them to read in a book, as these are doing,—and at the same time to have their feet and the backs of their heads

in total darkness. It is as unnatural as an opaque shadow in the sunlight—it is a condition which does not exist. Most photographers who have mastered pose, and control of light and exposure sufficiently to get so soft and well modulated flesh tones as in this case, would know enough to use a



Fig. IV.

lighter background, employed a larger reflector, give a longer exposure, or otherwise relieve that unnatural blackness. Yet there are many who do not consider, that no picture is a good picture which does violence to nature—and the maker of this less common mistake is one of them.

So is the photographer of the baby girl shown in Figure Four, but from a totally different reason. Here the background, while not light, is perfectly transparent, there is no feeling of Stygian darkness about the picture, and the flesh tones are soft and

rounded. But the mistake has come in using a wide open top light on a baby who already possesses decidedly pronounced and well marked features. Take an infant with a tiny, thin-lipped mouth, a shoe-button for a nose, small eyes and little hair, and the top light may seem to provide him with the usual facial appurtenances of a human being. But to take this baby, with her big eyes, her wealth of hair, her well shaped nose and rather large, if pretty mouth, and exaggerate every feature with a top light which not only emphasizes them all but puts a catch light in the eyes which makes her stare, is a photographic crime. Here again is the uncommon mistake—the man who knows enough to make this sort of a picture at all usually has studied enough of the adaptation of light to the particular subject of his art to know better than to so mismate sitter and illumination.

View point in photography has a two-fold meaning—view point with regard to the picture as a whole, as taken up in Figures One and Two and view point as considered with relation to the height of the camera, as exemplified in Figures Five and Six. Mistakes such as these two latter pictures show are not common, at least by beginners sufficiently advanced to plan such happy pictures as these two babies make. But Figure Five was made with the camera all too low, and with the unhappy result of giving the little pianist a Brobdinagian appearance which her daintiness does not deserve. The barely visible chair top, on which she is seated shows, that the camera was no more than eight or ten inches from the floor. To look up into



Fig. II.

the face of the small sitter, to show the piano from below rather than above, was a sad error, since it magnifies size, throws proportions out of gear and produces an illusion of bulk which is distinctly undesirable. Yet the material is here for a singularly attractive picture, and although the spot of light to the left is bewildering, the lighting otherwise is good, the composition is simple and the effect of the whole as pleasing as possible when this uncommon error is left out of consideration.

Exactly the opposite error is shown in Figure Six, in which the camera has been held so high that Little Miss Daisy Chain Maker has no face at all—only hair!

It would seem that, other things being equal, a man or a woman would take time to think of so easily righted a detail as this, before expending a plate, doing the work of development

and printing, and risking a possibly fine picture for the sake of the saving of the few minutes necessary to decide upon the one best elevation of the camera. Indeed, I believe that most beginners who have progressed to the stage when they can and do compose a picture, as in these two instances, and give some thought to the occupation of their sitters and the composition as a whole, do spend time figuring out the proper height of their instrument. Hence I put wrong elevation as an uncommon error for the beginner who has advanced beyond the over- and under-exposure stage, and with it, draw my diatribe to a close. As in the previous story, no attempt has been made to catalog all the errors, common or uncommon, of the more advanced beginner—merely to call his attention to those which will most surely spoil what otherwise might be his masterpiece!

CHOICE OF VIEW

BY W. B. SWIFT

THE task our editor has given me of writing on "Choice of View," is by no means an easy one. Before coming to our main subject, it will be well to devote a little time to what is necessary preparation by the photographer before he is really ready to choose views. The first thing is to master certain technicalities and manipulations to such an extent that when he is in the field the uncertainties and obstacles in the way of his artistic treatment will not be increased by ignorance of the means he has at hand.

While we leave the mechanical part to those who are solely concerned and occupied with development, printing, and the rest of the chemistry of photography, and do not care to use their skill as a means to art, it is necessary to fully comprehend the capacity of the camera and lens you have at your disposal, remembering that the best instruments are none too good for your purpose. Then you must have the ability to develop some one brand of plate in all its various conditions of under- and over-exposure, with reference to the result desired, by some simple developer, as pyro, and to give the proper exposure under varying conditions. With enough knowledge about printing to direct the printer in finishing your pictures, perhaps these are the best preparations absolutely necessary. Of course, other details will become necessary as your experience broadens, while with this much

mastered you can begin at once to transfer your attention and thought from the physical to the metaphysical side of photography, and there join in the dreams of the poet with an ever-growing fascination for suggesting stories, country tales, and the innumerable phases of man and Nature.

That ability to select or discard landscapes with a degree of certainty as to their final merit as pictures is of the utmost value to those who would do any serious work in art. In selecting views it is often advantageous to write down a list of characteristics one considers requisite, as, for instance, the following:

1. A broken foreground.
2. Retreating middle distance.
3. A varied position.
4. A place for figures.

There are many landscapes which will lack one or more of these items and yet be beautiful; but it is well at first to work on a limited ground, and branch out as one's knowledge of art and its laws requires. It may be said here that the reading of books on art and the study of what others have considered beautiful will be found an aid in selecting the best landscapes, and will be as needful in learning all the various details of balance of lines, composition, light and shade, and value. These cannot be properly considered in so limited an article as this. But let those who read books have an eye to that weakness, which seems in-born in some, of using the materials



"THE BIRCH"



Wm. Ludlam, Jr

which the author has selected to illustrate the principles, and huddle them together in a somewhat different form, and call it one's own, or venture to call it art. Bits of pretty things packed together in this way do not make beauty. You will find that many views which possess all these characteristics will fail to be artistic, and thus perhaps lead many to doubt the value of this guide. In reality a picture must have unity and harmony of parts with the whole in order to become a truly choice landscape, and what one might call of exhibition standard. This unity must be maintained throughout with reference to the main idea of the view, *i. e.*, the selection of details must be subordinated to the principal motive of the story.

But I seem to be getting away from my subject. It is difficult to keep to it, because innumerable considerations which the careful view-taker must heed are so dependent upon the right choice, and vice versa.

In general, choose such views as appeal to your sense of beauty, and, if you have deep within you a burning passion for beauty of expression, you will need to copy no style, nor limit yourself to any method, for as you advance your ideas will take shape of themselves, and your pictures will show your individuality.

You *must* be sincere, for sincerity is at the very basis of art. Choose such views as may be treated artistically. A photograph, to come within the sphere of art, as one of the principal things must either tell a story, please you, set you thinking, or make you wonder. Often it will do more than one of

these. The point where the photograph passes from the mere mechanical, material production to a *picture* is just where the right treatment is given it. In the one you are attracted to the physical, in the other to the idea. In the one you see a stump, an ugly pond, an unbalanced tree; in the other you *feel* the sentiment or pleasure, and catch the idea. The picture-maker speaks to you in his work when he makes you feel the beauties that he has felt. Let us all strive to be picture-makers; not merely make the photograph, but let it also be a *picture*.

Select those landscapes which are balanced in themselves, or that you can balance. It is often easy to balance a view by introducing a figure, or by moving a stick that points the wrong way.

A finder is convenient for measuring the view, to see whether it will require a large camera or a small one, and also to see where on the plate the objects will be likely to appear, and if they will be so connected as to make an agreeable effect.

It will be instructive for some, perhaps, to come out on the field in imagination, and there select a view. So let us take a finder, and start. It is hardly ever convenient to take the camera at first, though one often loses a shot one cannot get again. But these artistic shots are seldom artistic in all points.

We come to a beautiful bridge, and think we shall get a good view of it. Our road leads down to it through a cut in the high bank. We see that if taken from here we shall lose the story we must have our picture tell; the one

we might expect would take in, besides the bridge, the road and the river above and below, thus showing the surroundings of the bridge. We think a view from one of these banks above the road may be the best, and mounting, try to place the finder so as to make a good picture. It happens that the road turns as it leaves the bridge on the other side, and seems thus to cut off a bit of the story we had in mind; then we are too high; too much above the bridge; and, besides, that swampy land in the background makes a continuous line of horizon. Perhaps the other side of the road may be better for our standpoint, but we find it is not. Let us cross the bridge and try the other side. Yes! Here we have just what we wanted—the light bridge with river above and below, backed by a line of evergreens, and the road vanishing in the distance. There, also, the road turns off just in the right place to leave enough for our foreground and no more. Let us take the view here with a person on the bridge, and we may have a presentable picture. If it comes out well we shall have the satisfaction of knowing that it is not a chance view.

Here let me warn you against exhibiting chance views, for if the judges happen not to find it out, you will not

feel quite right to receive a prize so undeserved, and the next exhibit may find you without pictures. Be always persistent and ever on the watch for new and better views, and by-and-by, without knowing it, you will have become an artist.

After some experience you will outgrow and prefer to discard the list of requisites above, and adopt something like this, of more detail:

1. Lines well balanced.
2. Values well chosen.
3. Oneness of idea.
4. Subjects *in* picture.
5. Figures dressed appropriately to environment.
6. Show man's relation to Nature.
7. Clouds when needed.
8. Light focussed.
9. Neither principal object nor light in center.
10. Modest name.

This is, however, only suggestive, and puts the criterion rather high.

Finally, as you advance year by year, you will find that you are not merely hunting and selecting landscapes, but that you are working from an entirely different basis. You are seeking material to clothe your ideas, and when you reach this point you find that photography is charming indeed.



KNOW YOUR LENS

BY P. M. BRUNER

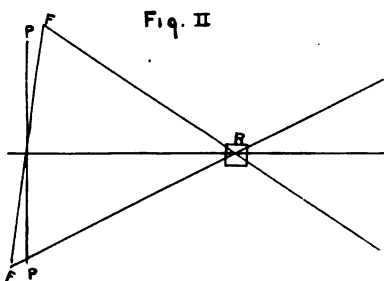
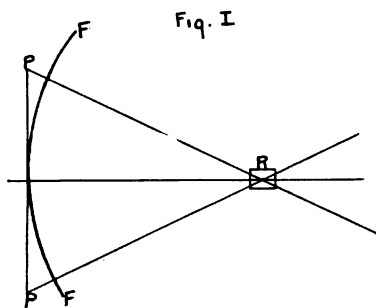
HOW many photographers really know their lens? Know what it will do and what it will not do. Know what to expect from it under all circumstances. Know why it will or will not do certain things. I venture to say that there is a very small percentage who do. The reason of this ignorance is that results are possible after a certain amount of practice. The cost of ignorance is enormous and considering the comparative ease with which the knowledge is obtainable ignorance is inexcusable. With six hours time and the proper use of one dozen plates more can be learned than in a year by the hit-or-miss system.

Take the rectilinear, a better lens than the manufacturers of anastigmats would have us believe. A better lens to start photography with is not on the market and I don't suppose there ever will be. With this comparatively fine results are easily had and it will no doubt surprise many to learn that a large majority of the prize winning pictures shown in the exhibitions are made with them. I will suppose that you agree with me so far and now pass on trying to explain its advantages and disadvantages and how you can overcome some of the later to some extent.

We will suppose for convenience that you have a five by seven camera which will very likely be equipped with an eight-inch focus rectilinear. Set up the camera, open up the lens wide

and focus on the wire screen in a window. Get under the focusing cloth and examine the ground glass closely with a magnifying glass. Here is what you will find. In a two or three inch circle in the center of the plate you will notice that the wires or lines will be sharp but as you get out towards the edges of the plate you will find the lines are not so sharp and in places look fuzzy. Possibly you will see fuzzy places within the three-inch circle. Now this diffusion is not sharply marked at the different distances mentioned, but is gradual, so gradual in fact that it will not be noticed unless the magnifying glass is used. If the lens be of shorter focus, say seven inches, the difference in sharpness between the center and edges will be easier to detect, but if the focus is nine or ten inches the circle of sharp definition widens and will probably extend over the whole plate.

Before taking up the practical value of this knowledge I will give you the reason it is so. Referring to figure one we have a diagram showing how this type of lens works. We will call the lens R., the plate P. and F., the point at which the rays of light are brought to focus. The diagram is exaggerated to show more plainly but you will see that the line where the rays are focused only touches the plate at one point and that at the center. This explains why only the small area in the center of the plate is in the sharpest focus, the F. line or field of the lens not touching



the plate at the corners. In reality line F. is not a line, but saucer shaped and by looking at a saucer and considering it the field of the lens you will see that the rays of light come to focus on its concave surface. By using a lens of longer focus the F. line becomes straighter and therefore closer to the edges of the plate thus giving sharper definition at the edges than one of shorter focus.

From the foregoing it will be seen that for the sharpest pictures a long or moderately long focus lens of this type will give the best results. Practically it has been found best to use one whose focus is about one and one-half times the longest side of the plate. A shorter focus may be used but to get results equal to that given by one of longer focus it will have to be stopped down so far that in many cases it will be impossible to take pictures.

The only real value of the short focus is in wide angle work.

The subject of stops and their use is a subject for a book but I will try to condense the more important points so that while I touch lightly on them you will possibly get a little better understanding of them.

Take a look at the lens and you will notice that its widest opening is marked either F8. or U.S.4. Now leaving the question of why they are marked this way as it is very fully covered by most manuals that come with the camera we will consider their effect. By stopping down from the widest opening to the next smaller stop we cut off one half the light that reaches the plate in a given time. Each smaller stop cuts off one half the light that the next larger one passes and by knowing this it becomes an easy matter to figure the exposure for any stop if the exposure for one of them is known. Suppose that with the lens wide open an exposure of one second is required. Then with the first stop two seconds is needed, the second stop four seconds and so on doubling the exposure for each smaller stop. The rule works backwards in that you take half the exposure for each larger stop. This covers the stop question as far as the exposure is concerned.

Once more focus on the wire screen as you did in the first place. Cover up your head well with the focusing cloth and examine the ground glass carefully with the magnifying glass. Reach around and stop the lens down to about sixteen and note the difference which will be in the lines near the edges of the plate becoming sharp.

When making this experiment you should be as close to the screen as three feet if your camera has sufficient bellows capacity and the focusing screen must be parallel to the wire screen. If stop sixteen does not make all the lines on the focusing screen sharp, either the lens is too short in focal length or it must be a very poor one.

Now I will describe some practice which if you will take the trouble to go through with will be worth dollars to you when you cannot work off the tripod or do not have time to accurately focus your subject. In this practice be sure to use the tripod, focusing cloth and magnifying glass. Suppose you wish to take a view or street scene and an object about twenty-five feet away must be sharp as well as the far distance. At what distance should your lens be set on the focusing scale and what stop used to make both equally sharp? That is a question I feel perfectly safe in saying that not one in twenty can answer. Can you not see the value of knowing that question and don't you see how easy it is to find out. One hour's practice with a desire to learn is all that is necessary. What you are learning is the depth of focus at the different stops and I would particularly recommend this practice at the shorter distances. Focus first with the lens wide open on some subject and then watching carefully note the increasing depth as the smaller stops are used. I know and maybe you do too that there are figures to show all this, but my argument is, figures are tiresome and hard to remember and the actual trial in the camera is far more interesting and easier to remember.

I will not say any more about the stops. From what I have said you can experiment and learn all there is to know about them. The practice costs nothing and no plates are necessary because what you see on the ground glass will be on the plate with the proper exposure and development. After you have gone through some practice then go out and expose a few plates to see how much you remember.

The highest development of scientific lenses is reached in the anastigmat. With these lenses the finest possible results can be had but I find that comparatively few know how to get them. Why? Because they don't know why it is an anastigmat. A lens of this kind to most people is one that takes a picture in one-thousandth of a second and that is as far as their knowledge goes. Can you give three or four reasons why it is different from the rectilinear? If you cannot give the two principal reasons you stand an extremely small chance of getting its best work.

Referring back to figure one, the F. line of this type of lens occupies the same place as the plate. In other words the field is perfectly flat and not concave and if the lens is mounted correctly and sharply focused every part of the plate will be equally sharp. One of the principal corrections then is flatness of field.

The correction for astigmatism from which it gets its name is the ability to focus all lines in the same plane equally sharp. This is extremely important in some lines of scientific work.

I will not take up the corrections for

color, distortion, and etc., as it is mainly the first two that concern the average user. I do not want you to think that I consider them unimportant but for our purpose they do not influence the handling to any extent.

It will never be known how many fine anastigmats have and will yet be condemned because of improper mounting. This trouble is most common and because the user knows nothing of flatness of field he does not know why he is not getting the results claimed for it. These lenses require the most accurate mounting on strong stiff front boards. The plane of the diaphragm must be exactly parallel to the plane of the plate to get the maximum sharpness and for work on small plates which are intended to be enlarged it is of the utmost importance.

There is nothing like enlarging for showing up the defects of a negative and if the lense is not mounted right you certainly will get them. In figure two is shown how the field of the lens looks when the lens is incorrectly mounted. This figure is also exaggerated to show more plainly, but you can see that the plane of sharpest focus cuts across the plate. This place where the field cuts across the plate is only a line with a diameter of probably one two-hundredths of an inch. If you enlarge to eight or ten diameters what kind of an enlargement do you suppose you would get from such a negative. Of course you can correct this by stopping down but if you do this why are you using a high priced lens? What good is the speed, for which you bought it, if you cannot use it? Do you begin to see now why the anastigmat needs such careful handling?

If you see that its flat field is put on the plate where it belongs your investment will pay the dividends the advertisement talks about but if it is one-fiftieth inch off the right place you might just as well use a rectilinear. Especially is this true if you, as I, make nothing but enlargements from small negatives.

To learn the depth of focus the procedure is exactly the same as for the rectilinear. For hand cameras other than the reflex type the faster lenses with an aperture of F4.5 will be found to have too small a depth of focus to be practicable. Even when stopped down they do not give as good results as those working at F6.3 or F6.8. This is well known among press photographers and in one of the largest cities of the United States I know of three or four staff photographers who have discarded the reflecting type camera with its F4.5 lens for a small plate camera and a F6.3 lens in a multi-speed shutter. They find the speed of F6.3 fast enough and the depth of focus great enough for all purposes. Do you realize the full meaning of that? For these men whose job depends on their pictures, the apparatus I just mentioned is good enough.

As I said before only a little practice is necessary to learn how to get all the lens is capable of. Go to the library and get books on the different points I have spoken of. Study and the putting into practice of what you have read is the only way to learn. The ground glass shows everything and there is no need to expose many plates. Go to it, my friend, and learn to know your lens.

COMBINATION PRINTING AND ALTERING THE BACKGROUND

BY WILLIAM S. DAVIS

IF good taste and judgment is used in selecting harmonious units for combination, there is no reason why an amateur capable of handling ordinary technical processes of photography should not be able to take up double printing successfully, since the mechanical part of the work does not require more than ordinary skill.

Since the placing of clouds in the blank sky of a landscape or marine view is the most common form of combination printing this will be dealt with first.

In the limited space available it is impossible to go much into the artistic phases of the matter, but as the purpose should be to make the clouds appear a perfectly natural element of the composition as a whole, rather than an addition tacked on as an afterthought, it follows the clouds selected must harmonize in general character with the leading masses of the landscape. Grey day clouds for instance will not fit a sunlit scene, or vice versa, and of course the same applies to such as are lighted from the wrong direction. As regards the latter, however, coming from right or left hand side, it is often possible to transpose the lighting by reversing the cloud negative and printing through the back. Another point when taking clouds for combination printing is to include a bit of the sky-line—then it is possible to place them in the position they

would naturally have appeared if seen when the foreground was taken. The softer, ordinary cloud effects are best adapted to most landscapes, if the latter forms the more important part of the composition. This suggests the desirability of acquiring an assortment of cloud negatives made under various conditions, as to weather, time of day, etc., and such should be marked with this data and the direction in which the lens was pointed.

Grey clouds can be secured without a ray-filter by stopping the lens to about F.22 (U.S. No. 32) and giving 1/25 second, but white ones against a blue sky are best rendered by placing a filter on the lens and giving five times the exposure mentioned, or what amounts to the same thing, using an F.8 (No. 4) stop with same speed of shutter. Fast ortho. plates or films should be used.

As the majority of amateurs make their prints upon "gas-light" or bromide papers, we will describe the easiest way of double printing upon them.

First examine a print of the landscape made upon the same grade of paper one intends to use, and note whether the sky shows any decided tint. If it does it must be shaded during printing by keeping a piece of cardboard moving up and down over that portion of the negative, otherwise the tint would affect the brilliancy of the printed-in clouds, unless a dull

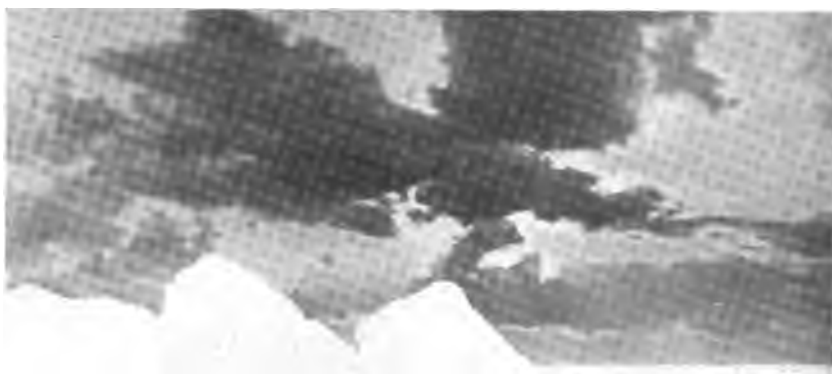


Fig. A.



Fig. B.



Fig. C. Finished Picture—"WESTWARD HO!"

effect happens to be wanted. In any case it does no harm to leave a soft tint near the horizon as it may help to join foreground and clouds better. Should the objects in view not allow the sky being protected in this way, it should be blocked out in the manner described further on.

Having exposed the landscape, develop as usual to full strength, and wash well, but quickly in several changes of water, but *do not fix*. Now squeegee the print face down to a piece of celluloid or thin glass, (old negatives from which the film has been removed serve well) taking care not to leave air bubbles between, see that the reverse side is clean and dry, then place in the desired position over the cloud negative, which can be determined by holding the printing frame up to the dark-room light. A size

larger frame allows latitude in moving print about. Expose about twice the time that would be given the clouds when dry paper is used. At this stage it is not essential to protect the portion already printed. After exposure, place print and its support in water and separate gently, lay former face up on a sheet of glass or in a flat-bottomed tray, and apply the developer to the *sky portion only* with a mop of absorbent cotton. When the effect looks right, rinse and transfer to fixing bath as usual.

In making enlargements the same methods are followed, only the protective film or glass between wet paper and negative is of course unnecessary.

When a number of prints are wanted, or a special printing process is used which cannot be manipulated in the manner described, it is desirable



Fig. D.



Fig. E.

to make a new negative which shall contain the complete effect desired. If the amateur possesses a long bellows plate camera which will permit of copying an object full size, and the negative wanted comes within the capacity of the apparatus, one can take the combination print (which for this purpose should be made on smooth or glossy paper) attach it to a board placed at perfect right angles in front of the lens, and photograph upon a slow or medium grade plate. A rapid one may be used by taking care to time exposure carefully and then develop up well, but will require more care in this kind of work to secure a clean result. It is impossible to give exact figures for the exposure, on account of several varying factors, but, working by the light of a north window, 30 to 60 seconds with stop 16 would be somewhere near the mark for a plate of medium speed.

If an enlarged negative is desired, it is better to make a combination transparency instead of a paper print. This is then placed in an enlarger (the same as a negative) and a slow or medium grade plate substituted for the usual bromide paper in holder or easel—thus securing a negative in place of a positive image.

While the required transparency may be made on one plate it is more convenient in some ways to use separate ones for foreground and clouds. These can be made by contact printing if desired, or of larger or smaller size by copying in the camera, as in lantern slide making. Most of the focusing enlargers allow of sufficient adjustment of bellows extension between lens and negative to permit of obtaining

the size image desired, while a kit will hold the transparency plates at the end usually occupied by the sensitive paper. Lantern slide or transparency plates are used for this purpose. The latter have the same emulsion as the former, only being made in larger sizes are known as "Transparency" plates. They have about the same speed as rapid bromide paper.

By this method the landscape is printed first, the sky cleared of any veiling by use of a ferricyanide reducer after taking from fixing bath, and after washing and drying is placed in contact in the dark room with a fresh plate, film to film, which are then kept together by bits of gummed paper at either end. These are placed so the image of clouds will come in the required position, keeping the landscape transparency between the cloud negative and fresh plate, and the exposure made. Upon development an image of the landscape will be found upon the cloud transparency, so after fixing all that is necessary is to remove all traces of same below the sky-line by the local application of a reducer. When washed and dried this plate is placed over the landscape in correct register and bound together with lantern slide binding or other gummed strips. I usually make such positives of standard lantern slide size so they will be available for projection purposes after the enlarged negative is made, but of course this is a matter of personal choice.

With reference to the illustrations of a shore scene: Fig. A shows the appearance of the foreground taken on a cloudless afternoon, while B represents the sky portion as it appeared

after clearing all which came below the outline of rocks. Fig. C is a print made from a new negative of the combination.

If the above description seems long, it is due to the fact I have tried to make each step clear enough for a beginner to follow, rather than because of any great difficulty in technical manipulation.

Now about changing the background of a subject. We may wish to remove some obstructive details from an otherwise pleasing view, which could not be kept out of the field of vision at the time; or again some snapshot of a figure or animal in a pleasing pose may have been taken against an unsuitable background. Whatever the cause, the first thing toward improving matters is to block out the objectionable parts in the original negative. In Fig. D, for example, it was felt that the line of scraggy trees in the middle-distance not only interfered with the boat mast but distracted attention from the broad masses which really composed the picture, so all above the skyline was blocked out with the exception of mast and rigging.

Some use red water color or prepared "Opaque" for blocking out parts, but I like artists' oil colors in tubes, light red being good for this purpose. A little is squeezed onto a piece of glass and mixed with a few drops of Siccatis de Courtray or Japan drier. The sky or other part is then coated with this, using a soft sable or camels hair brush, and when the boundary line is nearly reached the edge of the

color may be slightly softened by stippling lightly with a clean brush. If fine lines, like vessel's rigging, cut against the background it is often best to let the color go over them to start with, and then remove it in those places by tracing the lines with a finely pointed toothpick, thus saving the trouble of trying to stop out all around them. If the negative is kept in a fairly warm room the paint should be quite dry within twenty-four hours.

The print designated Fig. E gives an idea of the improvement brought about in this manner, only in finishing it the white sky, caused by blocking out, was toned down by rubbing over with a little powdered lead; had there been enough sky shown in the composition to make it desirable however, clouds might easily have been printed in.

With such subjects as figures or animals as a single feature of interest nearly filling the composition, pleasing results are frequently obtained by blocking out the upper portion of the background, and then stippling the color down toward the bottom so as to obtain something of a vignette effect. After a little skill has been attained in stippling it will be found the oil color offers a very flexible medium for such work, whether used upon the film or glass side of the negative. The background in prints made from negatives so treated can be greyed over by rubbing with lead, as described in a former article, or an entirely new background printed in from another negative, in the same manner that clouds are added to a foreground.

IRON DEVELOPERS

BY MATTHEW WILSON.

PART TWO.

ONE very important factor as respects ferrous oxalate development is the greater cleanliness of the iron bath in action as compared with the ordinary pyro developer, and those of the developers of the benzine series which have been found to possess analogous properties. Such baths, as every operator knows to his cost, are, almost without exception, subject to rapid oxidation during the developing operations, a circumstance due in a great measure to the presence of the caustic alkali necessary to the production of the chemical effects upon which the building up of the image essentially depends. Unfortunately, as a result of this process of oxidation, staining of the negative is very apt to ensue, this defect being, indeed, always more or less in evidence in cases in which the developing operations have, either through inadequate exposure or other cause, been somewhat protracted.

With potassio-ferrous oxalate, on the other hand, owing to the neutral condition in which the bath must be maintained during the development in order to obtain the best results, oxidation of the solution by the action of the atmosphere, though not entirely obviated, takes place only with comparative slowness, in consequence of which circumstance staining of the image is a phenomenon of very rare occurrence. It would seem also, that in cases in which the oxalate bath is exclusively em-

ployed, the risk of disfigurement of the image by transparent spots and markings, due to the formation and adhesion of air-bells on the film during the development, is greatly reduced, a fact probably due to a species of special cohesive affinity for the gelatine film peculiar to this re-agent.

A matter of even more consequence, technically speaking, is, that, according to Abney, the flatness of image which is so apt to result when an over-exposed gelatino-bromide plate is treated with one or other of the alkaline developers, may be considerably mitigated by the use of the oxalate bath. This statement, however, should be qualified by mention of the circumstances, noted by other experimenters, that the presence of a bromide restrainer is essential to the production of the effect in question. It is certain, at all events, that the addition of bromide to the oxalate bath is productive of a restraining action on the process of development much more marked than is found to result when the exposed plate is treated with an alkaline developer to which an identical percentage of bromide restrainer has been added.

Another advantage with which this developer has been credited is this, that its selection is calculated to diminish that tendency to frilling of the gelatine vehicle which, with certain brands of

plates and films, is not infrequently a feature of alkaline development.

Furthermore, certain well-known authorities have stated that by the substitution of the oxalate bath for the pyrogallol developer, partial if not complete immunity may be secured from these bugbears of the dry-plate photographer, red and green fog.

As an additional advantage, mention should, too, be made of the circumstance that, unlike pyro and the other developers of the alkaline type, the developing properties of the oxalate bath, when once it is mixed for use, are found to subsist almost unimpaired for a period of at least half an hour, and thus may be utilized, especially in cases of over-exposure, for the treatment, in immediate succession, of two or more of a number of exposed plates, without the necessity for replacing the bath already used by a fresh portion of stock solution between the operations. Some operators, it is true, express themselves

as averse to the repeated use of the iron bath, on the alleged ground that, in the course of the prolonged manipulations, the active properties of the solution are weakened to such an extent as is prejudicial to the quality of the resultant image. Others, again, draw a distinction, as regards respective developing values, between the behavior of the oxalate bath, repared, as it most commonly is, by simple admixture of solutions of ferrous sulphate and potassium oxalate, and that of the bath, hereinafter to be described, which is obtained by dissolving solid ferrous oxalate in an aqueous solution of potassium oxalate. Certainly, there seems little doubt that, for general purposes, the latter form of bath is much to be preferred in ordinary practice; but, notwithstanding this, there is some reason to conclude that the strictures which have been passed on the common form of bath in respect of its alleged shortcomings in the special circum-



"MEDITATION"

Nancy Ford Cones

stances referred to, are in the main unmerited.

On the other hand—and this, in cases of inaccurate or dubiously accurate exposure, is, of course, a serious if not vital defect—the iron developer, it is found, is, as regards the power of compensating for a wide latitude in exposure, lacking in those qualities which, by the use of the customary restraining expedients, are readily obtainable with the pyro bath and the other analogous developers of the alkaline series. Whilst to a certain extent both over-exposure and under-exposure may, indeed, be corrected in the course of development with the oxalate without special difficulty, this with exposures abnormally excessive or defective is practically impossible, and accordingly under such circumstances, the substitution of an alkaline developer for the iron bath is usually necessary.

Another disadvantage sometimes experienced by the tyro, but one, fortunately, which is capable of being easily remedied, is the difficulty which occasionally arises as to the preservation of the oxalate bath in a perfectly neutral condition. Generally speaking, experience shows that the presence of free alkali in the developer is detrimental to the quality of the negative, by causing cloudiness in the shadows and deeper half-tones. An acid condition of the bath is equally objectionable, not only because of the fact that the presence of the acid serves to accentuate and exaggerate the natural contrasts of the subject, thereby causing a harshness in the quality of the image, but also because it operates very decidedly to retard the progress of development. A neutral condition of the bath is, there-

fore, essential to the production of the best results with this developer, and, in order to ascertain if this state of things subsists, the mixed stock solutions should always be tested prior to development by means of litmus papers. The absence of any change of color, whether on testing with the red paper or with the blue, will warrant the conclusion that the bath is in a chemically neutral condition. If, however, a red color should result on testing with the blue paper, the acidity of the bath must be neutralized by the careful addition of a few drops of a weak solution of potassium carbonate. If the developer be alkaline—indicated by the blue obtained on testing it with a red paper—the defect may be similarly corrected by the use of a weak solution of oxalic acid.

A more troublesome and not uncommon result of the employment of the oxalate bath is the production, during the operations of washing the plate, of a white deposit of calcium oxalate in the pores of the film. This phenomenon is invariably due to the presence, in the washing water, of an excess of soluble salts of lime. As a cure for the evil, certain writers have advocated the treatment of the plate, subsequent to development and before fixing, in a very weak solution of hydrochloric acid. On chemical grounds, however, such a remedy must be condemned as impracticable, seeing that, in reality, in order completely to dissolve out the insoluble deposit, the employment of a moderately strong acid solution is actually necessary, and, moreover, that such a solvent cannot safely be used for the purpose without grave risk of detriment to the appearance of the image.

As a preventive measure, the use of pure water for washing purposes is a preferable expedient, but when such is not obtainable and only hard water is procurable, the latter should be treated, prior to the washing operations, with a solution of neutral potassium oxalate, in order to precipitate beforehand any calcium compounds present.

The only other feature, of conspicuous magnitude, of an objectionable kind, that is liable to occur during development conducted by means of the oxalate bath, is that which is found to arise specially in the case of paper prints. When these are treated with this developer, a brown precipitate of oxide of iron is exceedingly prone to deposit itself in the interstices of the cellulose web, and this unless special measures be taken to effect its removal, is, naturally, harmful to the pictorial quality of the finished print. The coating of oxide may be dissolved out by treating the prints, after development, for three minutes in a 1% solution of citric acid. Care should be taken to remove all traces of the acid bath by rinsing the prints in water after treatment and before their transference to the fixing solution.

Passing next to the matter of formulae, the common form of bath is ordinarily prepared for use by adding (1) a saturated solution of ferrous sulphate to (2) a saturated solution of neutral potassium oxalate, in the proportions by volume of one part of the former to three parts of the latter. For certain special purposes, as also during warm weather, it is sometimes advisable to increase the proportion of the oxalate solution; but in no case should this exceed six volumes per unit vol-

ume of the iron solution. The stock solutions should be made up by dissolving the salts in boiling water. For preservative purposes, citric acid is usually added to the sulphate solution. Opinions differ somewhat as to the proportion of acid actually requisite, but six grains per fluid ounce is the quantity recommended for use by the majority of experienced oxalate workers. According to Dr. Hauberisser, of Munich, the desirability of the oxalate bath in action may be considerably increased by the addition of one volume of a 20% solution of Rochelle salt (potassium sodium tartrate) to every four volumes of the stock ferrous sulphate solution. The mixture, he states, should be boiled and allowed to cool before it is added to the stock oxalate solution.

As above prepared, the oxalate bath always contains a large percentage of potassium sulphate, this salt being a necessary product of the double decomposition which ensues on mixing the stock solutions. In order to get rid of this photographically useless constituent, and thereby to enhance the active developing properties of the reagent, it is advisable, whenever circumstances permit of the alternative, that the bath should be made up and employed in the form of a one-solution developer. To effect this, a saturated solution of potassium oxalate in boiling water must be prepared, to which ferrous oxalate in the solid form must be added in excess, the mixture being well agitated until the iron compound ceases to dissolve. The red solution should then be allowed to cool, and, after filtration, transferred for preservation to a stoppered bottle. If any difficulty be experienced in obtaining

ferrous oxalate, that salt may be easily prepared by precipitation, by treating a hot saturated solution of ferrous sulphate with oxalic acid, and washing by decantation the copious yellow deposit of oxalate thereby produced.

The restrainer customarily used with the oxalate bath is a 10% solution of potassium bromide. The quantity of restrainer to be added to the developer will, of course, depend very largely on the extent of the over-exposure which it is required to counteract. Ten drops per ounce of developer should, however, amply suffice in the majority of cases. Some operators, it is well to mention, prefer to omit the bromide altogether, and in cases of known over-exposure employ instead a bath composed of equal volumes of old and new developer. By this method of treatment, it is claimed, brilliancy and vigor of image are obtained without the accompanying harshness as regards contrast that is so frequently observable in negatives which have been treated with a developer containing an excess of bromide. The addition of from one to ten drops of a 1% solution of hypo to the developing bath is recommended by some writers as serviceable for accelerating the action of the solution in cases of under-exposure.

Concerning the properties of the remaining developer of the iron series, viz., the ferrous citrate bath, it need only be stated that these much resemble in character those of potassio-ferrous oxalate. The citrate, however, is not

nearly so liable of oxidation during the process of development, upon which account the bath, when once mixed, may be repeatedly employed for the particular purposes for which it is required:

The following are two standard formulae for the preparation of the citrate bath. Formula No. 1 gives cold tones, and No. 2 warm tones:

No. 1.

- | | |
|--------------------------------|------------|
| A. Potassium citrate..... | 1 ounce |
| Neutral potassium oxalate..... | 120 grains |
| Distilled water..... | 4 ounces |
| B. Ferrous sulphate..... | 1 ounce |
| Sulphuric acid..... | 4 drops |
| Distilled water..... | 4 ounces |

For development, mix one volume of B with four volumes of A.

No. 2.

- | | |
|--------------------------|----------|
| A. Citric acid..... | 2 ounces |
| Ammonium carbonate.. | 1 ounce |
| Distilled water..... | 5 ounces |
| B. Ferrous sulphate..... | 1 ounce |
| Distilled water..... | 5 ounces |

For development, mix in equal volumes. A 5% solution of sodium chloride should be used for restraining purposes in place of potassium bromide.

In order to remove all traces of insoluble iron compounds, the use of the citric acid clearing bath already described as necessary for the treatment of paper prints that have been developed with potassio-ferrous oxalate is equally indispensable in the case of those that have been produced by means of the citrate developer.



"BURNING LEAVES"

Wm. Ludlam, Jr.

AUTUMN AND THE HAND CAMERA

BY WM. LUDLAM, JR.

AUTUMN is the time, when summer's heat is being tempered to the approach of winter; when nature's activity of the year is passing through the harvesting period to the season of rest; when we begin to grasp the fruits of our toil in collecting the rewards of past effort; in other words, the reaping time. After the heat of summer has abated we settle down in sober earnest to rake in our "chestnuts" for winter roasting.

The camera, which, during the summer months has been rushed by the vacation hit-or-miss madness, now settles down to the production of real serious results. The cool breeze of autumn tones down the desire for haste and the mind once more controls the eye and the hand; reflection guides

the helm of endeavor and each picture is spaced and thought out in lines of true artistic perfection—at least, that is as it should be. Having safely passed through spring's "fever" and summer's mad hurry of so called "rest," autumn should find us in a mood of grateful acknowledgment, ready to perform wonders.

The fall of the year again brings up the color problem. The brilliant greens of Summer are changing to yellows, reds and browns and the necessity of orthochromatic plates used in combination with a ray-filter becomes self-evident. Note the expression, "with ray-filter," because without its use all the color selecting properties of the orthochromatic plate is practically lost. An ordinary plate,



"OCTOBER"

W'm. Ludlam, Jr.

without color sensitiveness, will produce better negatives with a ray-filter than an orthochromatic plate without one and, in like proportion, the ray-filter and orthochromatic plate used in combination will outclass the ordinary plate. A four-times filter gives the best results for general landscape work as it shows a very fine selection of color value in the foliage, without making the blue of the sky too dark.

I am like a great many others who, sometimes, do not practice as they preach, and if I am caught in the meshes of my teaching, by contrary example, the only thing to keep in mind is to do as I say and not as I perform. I have in mind one particular case to illustrate this. While busy writing an article on "Winter Photography," in which I was strongly recommending the use of double-coated, orthochromatic plates, a sudden and unexpected snow-storm comes

on and, in taking quick advantage of the opportunity offered for making a good example of my "Winter-Photo" preaching, I grabbed the first plate-holder my fingers touched, not knowing, until after I made the exposures, that it contained just "ordinary" plates. My plate-holders are all numbered and as I load them I make a record of each kind of plate put in. This record I always have handy in my camera case for reference in making exposures. (I don't like to waste a good plate on a poor subject and always have at least one holder loaded with the "ordinary" kind for this contingency.) The two exposures turned out to be pretty good so I took a long chance and sent them in with the article. The editor very kindly passed them for reproduction; but I have always had a kind of a sneaking idea that he knew all the time I wasn't living up to my profession. Keep



"THE HARVEST PARADE"

Wm. Ludlam, Jr.

right on with the treatment for successful photography as outlined in the different numbers of this magazine and you will come out all right.

To return to the ray-filter. In using it the exposure must be ample to get full value, about one second at F:16 for ordinary open landscapes. Where shadows are deeper and very little, if any sky shows, as in woodland scenes, a darker filter may be used to advantage, say six times; but for all general purposes the other is best.

We sometimes sing an old hymn in our church entitled, "What Shall the Harvest Be?" And that's the great question, "What shall the harvest be?" And the answer is in proportion to the amount of effort we expend in going out after it, the more work the larger the reward. There are a lot of simple-minded, good old souls who sit

idle in the pews waiting for the harvest to fall through the roof and drop into their expectant laps. They may at the end, through the virtue of patient waiting, receive a few stray grains of reward; but there isn't any doubt that the full richness of the crop is going to the fellow who puts his shoulder to the wheel of personal endeavor and gets out after it, to meet it half-way at least. Faith without work is as a modern high-power gun without ammunition. It looks like business but is powerless to execute.

Shouldering a camera is like shouldering any other responsibility. It returns interest only as principal is invested.

A perfect print as "a thing of beauty, is a joy forever," and brings the added satisfaction of a personal work well done. Your's the effort, your's the reward.

YOUR ALBUM

BY ARTHUR C. BROOKS

THE most universal use to which the photographic album is put is to hold prints depicting various and sundry happenings, generally of a personal nature, occurring from time to time. The utility of the album is in guarding against the loss of otherwise loose prints, and in keeping them in a convenient form for examination. And because our sympathies are appealed to more by the sentiments attached to these photographs than by their artistic value, is no apology for haphazard work. A photograph worth mounting at all is certainly worth mounting well.

I recently examined an album which, considering its contents, was an excellent example of what an album should not be. It was one of the modern loose-leaf kind, well made and of good material. The contents included a great variety—from a tiny souvenir of Aunt May's first auto ride to a post card view of the club's last picnic. This ample assortment was reasonable enough, but the method of mounting was execrable. The prints were stuck in with so little consideration of the resulting collection that the general effect was one of decided mediocrity.

When purchasing an album one has a choice of two kinds. The first is known as the "made-up" album, the leaves are immovable and of only one shade. The other is the loose-leaf, previously mentioned, containing leaves of different shades to match the

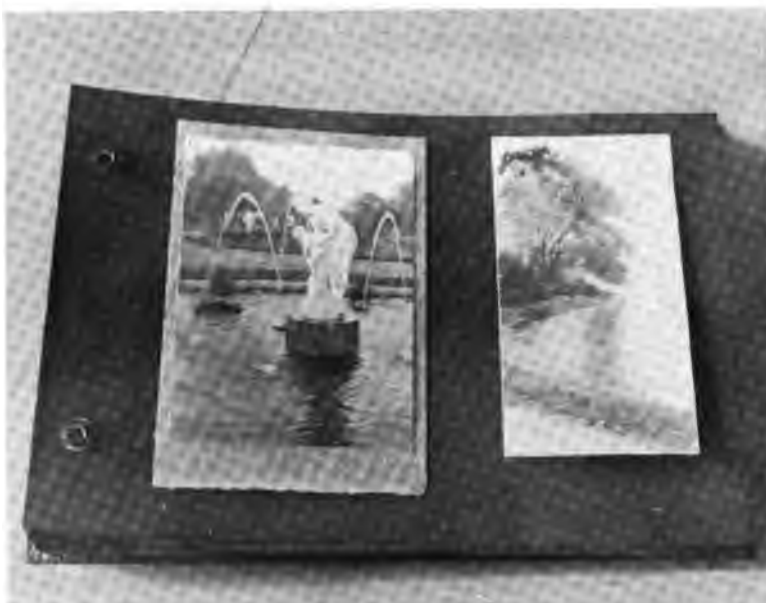
respective prints. Accordingly, your black and white prints may be mounted on black or gray toned leaves, while your re-developed or sepia prints belong to those of brown shades. Colored prints appear to best advantage on plain white. Heavy drawing paper, cut to size, is a good substitute if white leaves cannot be purchased.

The loose-leaf album is unquestionably the superior of the other. Its primary virtue lies in its ease of access. If one devotes an entire album to one particular branch of photography, that of flowers, for instance, the loose-leaf album allows him to arrange and rearrange his collection just as he desires. And again, if a print is mounted poorly or is accidentally damaged while in the book, the entire leaf may be easily removed and a new one put in its place. This is, of course, not possible with the bound album.

Consider the "album de luxe." This most artistic container of photographs cannot be purchased. The leaves are formed of the regulation photograph, printed so as to allow a generous border of white. An opportunity is presented for matt work, border-shading and clever spacing. The entirety is then bound (the services of a professional binder are advisable) in white kid or some similar leather and the exterior neatly lettered. This album is ideal for special collections and while the cost may seem prohibitive the result is well worth while.



1 *Improper Mounting and Poor Selection of Subjects*



2 *Proper Mounting and Selection*

Perhaps a few words on the mounting of single prints would not be inappropriate here. It is easy to err in this work and the poor mounting of a print certainly detracts from its value.

As to the position of the photograph on the mount—place it anywhere but in the center. The most popular position is one in which there is more space below than above and an equal amount on the sides. However, there are numerous positions open to the selection of the individual worker. The main point is to preserve harmony throughout.

Leaving the single mount aside let us consider multiple mounting. The body of the mount is of heavier material than the papers attached to it, to prevent a flimsy whole. For an example let us take a black and white print of average tone. We use a dark body on which we paste, by its top edge only, a sheet of thin, gray paper. Then, if desired, a sheet of pure white. The print is attached to this. The resulting whole should show the print edged by about one-eighth of an inch of white, a quarter or three-eighths of an inch of gray and an inch or more of black. These figures are only approximate; the proper amounts depend upon the size of the prints and the likes of the maker. It is difficult, if not impossible, to prescribe one or two schemes which will provide mountings suitable for all prints. As in the size of the spaces this depends entirely upon the print itself and upon the desires of the maker. With ex-

perience comes practice and practice makes perfect.

The mountant, or the material with which the print and papers are cemented together, is always the bane of the beginner's first efforts. It is usually flour or starch paste, and as there is considerable moisture in this it is difficult to prevent cockling or puckering of the thin print. This trouble is generally obviated by smoothing out the air bubbles before the paste becomes set, and then placing the whole thing under pressure for a day or two.

Dry mounting will put an end to this pernicious trouble, but some skill is required to have the mountant work properly. This consists of sheets of tissue coated with a kind of shellac, and dried. It is interposed between the print and the mount and a not too hot iron is passed over the whole. This is where the trouble occurs. If the iron is too hot the tissue will stick to the mount and not to the print, and the opposite will result if the iron is too cold—the tissue will adhere to the print and not to the mount. The tissue should be lightly touched with the tip of the iron and the print placed upon it. Then both are trimmed and laid upon the mount. Use a clean piece of paper between the iron and the print.

The virtues of this method of mounting lie in its ease of operation, after you have practiced, and the absolute purity of the shellac used—no deleterious matter can reach and ruin the print as is sometimes the case with paste mountants.

MAKING ENLARGEMENTS FROM LANTERN TRANSPARENCIES

BY ALFRED J. JARMAN

TO make an enlarged negative from an ordinary lantern slide is not a difficult matter at all, providing one possesses an enlarging lantern. If the lantern slide is already finished with both mat and binder it will not be necessary to remove these except in cases where the enlargement must be made clean to the edges.

The usual lantern slide measures $3\frac{1}{4} \times 4$ ", and at times it may be necessary to remove the binding and mat. The use of paper in this particular instance cannot be entertained, because the result would be a negative print, the highlights and shadows being all reserved unless a special negative is required, where certain effects are intended, by working upon the negative. To secure these effects, for the present, however, it is intended to explain the method of obtaining a negative upon a glass plate, so as to be serviceable for the production of paper prints either by direct printing or by development. In the first place the room in which the enlarging operation is to be performed must be quite free from extraneous light, so that perfect negatives may be obtained, which when obtained, may be used for any kind of paper, rapid or slow, or for the use of printing out paper. Any good lantern slide may be used for producing enlarged negatives from plates $6\frac{1}{2} \times 8\frac{1}{2}$ " or 8×10 ". The way to proceed is as follows: Place the transparency in a

light wooden frame, the same as is used for the stereopticon, cover a piece of smooth board with dead black paper, pasted thereon and dried, arrange this board in front of the enlarging apparatus so that it may be made to slide readily to and fro, place thereon a piece of thin, white cardboard, held in position with a couple of glass push pins at the bottom, and one in the centre at the top, not pressed through the board, but so placed that they hold it in position so that when it is removed, a sensitive plate may be substituted in its place. The image may now be focused upon the cardboard, so as to prevent a sharp image, and then the stop inserted with a smaller hole, or the diaphragm turned so as to sharpen the image, and reduce the amount of light. These small items are necessary to secure a good negative. Have ready to hand the size plate it is intended to make the enlarged negative upon, say $6\frac{1}{2} \times 8\frac{1}{2}$ ". As an illustration, the kind of plate well suited for this work is what is known as the process plate. It is comparatively slow for camera work, but just the thing for the work in hand, as the writer has experienced when making negatives from lantern slides. Having focused the image to the size and position, a cap should be made for the lens, where a piece of ruby glass is inserted in place of the opaque, and by this means it may be plainly seen

upon the focusing board whether the plate is in the correct position before exposure is made. All being ready the cap is removed and the exposure made. If the stop is F32, and the light employed is a fifty candle power tungsten lamp, then an exposure of twenty-five or thirty seconds will be required, but to be accurate a trial of this kind must be made in the first place. The time here given, however, will be found to be about right. The lens now having been capped, the light may be extinguished and the developer applied. The developer to be used will determine the quality of negative as much as the time of exposure. The following developer will be found to answer, which should be made with hot water, and allowed to become quite cold before use. It may be used many times over, especially if an ounce or two of fresh developer be added.

DEVELOPER FOR THE ENLARGED
NEGATIVES

Hot water.....12 fl. ozs.
Metol.....40 grains
Hydroquinone.....25 grains
Sulphite of soda (dry)..... 2 drams
Carbonate of soda (dry).... 3 drams
Potassium bromide..... 8 grains

All the various operations, except the mixing and compounding of the developer, must be carried out under a ruby colored light. In developing use a black tray, preferably a deep hard rubber tray. The exposed plate may now be placed in the tray and five ounces of the developer poured quickly over it in one sweep. Always keep the tray covered during development. A piece of cardboard, 8 x 10, preferably yellow strawboard; is well suited. Rock the tray occasionally; this will

prevent cobweb markings. In the course of one minute the plate may be examined, when it will be found that an image of excellent quality is being formed. Cover the plate again, when in the course of two or three minutes development will be complete. The plate must now be well rinsed under the faucet and placed to fix in the following fixing bath:

FIXING BATH FOR THE ENLARGED
NEGATIVE

A.

Water..... 20 fl. ozs.
Sodium sulphite (dry)....1½ ozs. av.
Hyposulphite of soda..... 7 ozs. av.

B.

Water..... 20 fl. ozs.
Common alum..... 13 drams
Potassium bisulphite ½ oz. av.

When the salts are dissolved completely in each, add B to A; stir well. The solution is then ready for use. The negative will fix rapidly in this bath; perhaps in two minutes. Leave it in the solution for five minutes, or a little longer; ten minutes will do no harm, but produce a very brilliant and clean negative. Wash the negative well for half an hour. Meantime, take a tuft of absorbent cotton, wet it, and wipe the surface of the negative carefully all over; first lengthwise and then crosswise. This will insure a clean surface, when the negative may be placed in a rack to dry. If it is desired to produce a paper negative, so that certain desirable effects may be introduced, this may be done by using a thin bromide or chloride paper, the kind that has no baryta coating. There are several kinds of thin paper made to-day that answer the purpose well, and when developed with the de-



"OVER BEAVER DAM," Algonquin Park

R. R. Sallows

veloper here given will produce a negative that almost entirely eliminates the grain. To get rid of the grain effect when a paper negative is used there are a number of ways, but the best plan with which the writer is acquainted is to pour a small pool of glycerine upon a clean glass plate, the size of the paper negative, say, $6\frac{1}{2} \times 8\frac{1}{2}$ or 8×10 , then place the paper negative, *back down*, upon the glycerine, place upon the face of the print a sheet of clean blotting paper, then upon the blotting paper place a piece of smooth paper such as manilla paper, or fools-cap, then squeegee upon this, so that the paper negative becomes pressed into close contact with the glass. The blotting paper will absorb any excess of glycerine, while the paper negative will adhere with amazing tenacity to the glass, when prints of excellent quality may be made therefrom. Previous to the attaching of the paper

negative, any working up may be made upon it, with brush and pencil, and with skill effects may be secured that are impossible with a glass negative. The storage of these negatives presents no difficulty, all that is necessary is to place the glass plate with the glycerine attached negative into a tray of cold water, the paper negative becomes released, while one more washing in clean, cold water completes the operation, when by blotting the negative well, it may be suspended to dry, and packed away with perfect safety. The above simple plan is superior to either waxing or oiling; it can be depended upon, for translucency ridding the paper of grain, and effective in printing. With just ordinary care enlarged negatives made from good lantern slides are in no way inferior to negatives made direct in the camera, while any spotting that may be found to be necessary, may be easily accom-

plished upon these enlarged negatives. More than this prints made from these enlarged negatives are saleable articles. There is a demand for them for illustrations in many magazines and good prices can be obtained for such prints which will more than repay those who care to undertake the work, to say nothing of the pleasure and knowledge

gained by the successful working of the process. Most things to-day are measured by their commercial value. This process of making enlarged negatives from lantern slides is a branch of photography that is both instructive and profitable, where those practising it desire to make it a commercial success.

PHOTOGRAPHY UNDER DIFFICULTIES

BY A. MANN

THE writer of this article, after having for some years worked in large and luxurious permanent dark-rooms fitted with electric light, gas, and water, suddenly found himself dumped down in a village five miles from the nearest railway, with no water other than rain from the roof collected in an underground pit with a pump above, no gas, and no room that could be spared for a dark-room. As many readers of this paper may sooner or later find themselves in a similar position, or some may hesitate to take up photography at all for like reasons, a few hints on the best way to adapt one's hobby to these conditions may be of service. First of all, let me say there is not the least need of a dark-room at all—at any rate, not for all sizes up to half-plate. It is quite a simple matter to load plates into any camera or plate-holders in a changing bag by the sense of touch only and after exposure to transfer them to a developing tank, and this is one of the most certain and cheap methods of developing. There is no risk of fog, since the plates are in total darkness

the whole of the time; no temptation to leave under-exposed plates in too long “just to get a bit more detail out, you know,” with the result that the gradation is too steep, or to take over-exposed ones out too soon and get flat negatives in consequence.

Some think that because the tank holds a lot of developer the method is expensive, but the contrary is really the case. Most quarter-plate tanks hold about 20 ozs. of liquid and take six plates at a time. If 4 ozs. of normal strength developer is diluted with 16 ozs. of water, this will develop the six plates in about half an hour with the developer about 60 degs. Fahr.; moreover, the same developer *can*, if the photographer is very keen on economizing, be used for six more plates; but it is far better to use four more ounces.

Provided a suitable developer is used and the tank is either reversed several times during development, or, if this is not possible, the inner tank raised and the liquid allowed to drain out and then fill up again, there is nothing to lose and everything to

gain by tank development. For those workers who use Tabloid preparations, rytol is a developer that works excellently in diluted form; two pairs of tabloids are dissolved in 20 ozs. of water, and will complete development in 15 to 30 minutes, according to temperature of bath and style of negative desired. Glycin has the reputation of being one of the very best developers for the purpose, and a good formula is as follows:

Glycin. 1 oz.
Soda sulphite. $2\frac{1}{2}$ ozs.
Potassium carbonate. 5 ozs.
Water (hot). 60 ozs.

This is of normal strength and will be diluted with about four times its bulk of water to do its work in about half an hour. The writer has always found the standard M.Q. developer formulæ work well with stand development, but some photographers have complained of markings with it. Before leaving the subject of developers let me warn my readers that rain or well water should always be boiled and allowed to stand for some time before using for making up any photographic formulæ.

With regards to tanks, the best forms are undoubtedly those which have some arrangement to guide the plates into their respective grooves, also some means of either reversing the whole tank or readily agitating the contents during development. With this type there is no difficulty at all in filling the grooves by touch alone in the changing bag. In spite of what has been written to the contrary, I have never found any ill-effect in using the tank for fixing purposes, and I have had two zinc ones in use thus for some years; the plates

should certainly be washed thoroughly in the tank as well, then the latter gets thoroughly cleansed at the same time.

There is not much to be said about changing bags except that for home use they can scarcely be too large. A half-plate size is much easier to handle materials in than a quarter-plate, and it is quite a good plan to construct a sort of skeleton box out of thin canes or wire and to insert this inside the bag to keep it distended; this leaves the hands much more free.

When the supply of water is distinctly limited, waste is unforgivable, and something better than repeated changes is necessary. Here is where the commercial hypo eliminator is useful, and will thoroughly remove all trace of hypo in a few minutes with the minimum expenditure of the "precious fluid" for either plates or paper, and will at the same time thoroughly cleanse the tank.

The chief difficulty of the rustic photographer will probably be enlarging, and if daylight is used some sort of dark-room will have to be fixed up by blocking up the window of the most convenient room, leaving a suitable opening for the camera; but if an enlarging lantern is available, then any room can be pressed into service at night, and one virtue of the rural solitudes is that there is not likely to be a street lamp outside the window, as so often happens in town, the only thing to guard against being the full moon shining in the window. For illuminant the spirit incandescent lamps sold for the purpose are excellent and inexpensive, both to purchase and use, but if the photographer is also a cyclist and has an acetylene lamp, it will fre-

quently be found that this will serve excellently if the hood and lens are detached, leaving the burner free. Adjustment of height is easily managed by standing the lamp on a sufficient quantity of old negatives, and exposures are quite reasonable, the average burner enabling exposures of about one minute to be given when enlarging from $\frac{1}{4}$ -plate to 10 in. by 8 in., using

F/11 (nominal) and an unstained clean negative and rapid bromide paper.

P.O.P. and gaslight papers, of course, present no greater difficulties under these conditions than they do in town, the latter being worked in the evening and exposures made by burning magnesium ribbon.—*The Amateur Photographer*.

DONT'S FOR BEGINNERS

DON'T get angry about the price of plates. They are good value anyway.

Don't forget to buy an exposure meter, and learn how to use it, before you start on your holidays.

Don't, when taking a picture, with your back to the sun, include your own shadow in the foreground.

Don't forget to test the view-finder and focussing scale of a new camera *before* starting on your holidays.

Don't fail to send prints to people to whom you have promised them. They will not forget, even if you do.

Don't attempt to polish so delicate an optical instrument as your lens with anything but the softest silk.

Don't, when making short exposures, forget that the nearer the object is to the camera the longer the exposure required.

Don't leave your camera home on a rainy day. You may miss excellent pictures in the misty, moisture-laden atmosphere.

Don't pull out the tabs of film-packs too violently when changing films. By pulling slowly and deliberately, all markings can be avoided.

Don't leave your camera lying about in bright sunlight. It does not do the instrument any good, even if light does not get in and spoil the film.

Don't forget to use ortho. plates and films for most outdoor subjects. Improvements in results will amply repay the little extra care necessary.

Don't smoke in the dark-room. Many a promising batch of fine negatives have been hopelessly fogged by the careless striking of a match to light a pipe.

Don't forget to repack plates and films as carefully as they were originally, if they are to be kept for development until you return home after the holidays.

Don't forget to turn your back to the sun or brightest light when changing spools of film or when pulling out or replacing the shutter of the dark slide.

Don't, unless you can possibly help it, change plates in strange dark-rooms when traveling. Either change in your room at night in total darkness, or use films.

Don't forget to take a box of dark-room pins with you on tour. They are

always handy for pinning a blanket or two over the bedroom window when plate changing.

Don't expose on street scenes at anything up to 1-500 of a second; they can generally be successfully taken at exposures ranging from 1-20th to 1-40th of a second.

Don't take hand camera shots on windy days without buttoning up your coat tightly. The wind may get enough grip to give movement to the body and blur the exposures.

Don't, if you want your plates to dry quickly, place them closely together in the same rack. The secret of quick drying is to allow them free access of air, and plenty of it.

Don't forget that it is no economy to use badly kept or old developers; the cost of plates and paper thus wasted would probably be more than the cost of fresh solutions.

Don't fly to the fastest plate on the market. The rule to use the slowest plate that your subject demands is a good one, and, if followed, your proportion of failures should be considerably reduced.

Don't, after filling your slides, open your dark-room door and leave your box of unexposed plates uncovered. How many experienced photographers have forgotten this, and how many plates have thus been wasted!

Don't be led away by the novelty of new phases of figure work when abroad. Consider the pictorial possi-

bilities and the background. Snapshots of local costume, etc., can be purchased at the local picture-postcard shops.

Don't attempt to dry celluloid film negatives with methylated spirit; they will shrink and buckle up into all manner of shapes. The advice to dry negatives by this means only refers to glass plates, which can be treated without harm resulting.

Don't think it an impossibility to photograph with a hand camera held above the head. It may sometimes happen that this is the only way of securing a particular subject. The camera should be held upside down, so that the view-finder can be seen by looking upwards into it.

Don't leave your tripod screw behind. To keep it always attached to the tripod head is a wise proceeding. Few things are more exasperating to the photographer on a ramble or tour than to find when about to set up his camera that his tripod screw is missing.

Don't fail to bear in mind that the temperature has an important influence on development. In a high temperature the first appearance of the image and completion of development is considerably less than in a low one, so much so that in very cold solutions it is sometimes impossible to obtain sufficient density.—*The Amateur Photographer*.





"ROSES"

J. H. Garo



CURRENT EVENTS *and* EDITORIAL COMMENT

WE may expect dull days before many weeks are over, but that need not mean putting the camera away in its winter quarters. Among the subjects that can be quite well dealt with by the amateur in the autumn months in broken weather may be mentioned domestic interiors, with or without figures. Those who have not yet opened out this subject in company with a camera will be agreeably surprised to find what a lot of subjects may be found without going outside the house. Until a little experience has been gathered it will be as well not to attempt the inclusion of figures. A rainy day will probably mean increasing the exposure, but in not a few cases it will be found that the softened lighting of the somewhat obscured sky, together with the light reflected from the wet ground outside the windows, gives a better effect than can be got on a fine day. It is quite a common mistake to suppose, as many beginners do, that a stand camera and a special wide-angle lens is essential for this class of subject. Indeed a tripod may easily be a positive hindrance in small rooms where we wish to avail ourselves of every inch of space. By placing a camera on, say, the shelf of a wall bookcase we can

often gain a couple of feet, when compared with the approach afforded by an ordinary tripod. Often there is a temptation to use a wide-angle lens when a narrower angle would give a less crowded looking picture, hence the moderate angle lens usually fitted to a hand camera acts as a wholesome check in this direction. The tyro may be warned against the mistake of placing the camera too high above ground level. It is most important that the exposure be on the generous side, and the development had better be on the under rather than the over side.

☆ ☆ ☆

Photography has now arrived at such a stage of sub-division and specialization that the ordinary amateur has little and the general public still less idea of the many by-ways in science where it is now being used as an aid to research. It is therefore no easy matter to open out a previously untrodden path, but we think that credit in this direction is due to Dr. Reginald Morton. Recently he brought before the notice of the Royal Photographical Society, some remarkable results in radiography of the internal structure of flowers. The special point about these results is the

startling degree of detail shown by these X-ray prints. One's general idea of a picture obtained in this way is anything but a suggestion of fine detail, *i. e.*, something more suggestive of a mass of cotton wool. By way of example we may refer to just one of Dr. Morton's pictures of a flower of one of the narcissus order (*amaryllidacea*), in which not only could we see the axile placentation, but also the individual ovules. Now when one considers that these X-ray pictures—or, as it is now the thing to call them, radiographs—are differential shadow records, or skiagrams—life-size only, it is all the more surprising to have secured such detail-displaying results.

☆ ☆ ☆

HIGHEST HONORS AWARDED ANSCO PRODUCTS AT THE PANAMA-PACIFIC EXPOSITION

Photographers may be interested to know that Ansco products were selected for the highest honors at the Panama-Pacific Exposition, despite the fact that prizes were not sought by Ansco Company, nor were their goods entered in competition. Indeed, a full line of Ansco cameras and Ansco photographic materials was not on exhibition when the judges met.

The Ansco booth was not erected for the purpose of exhibiting goods, but merely to carry out the terms and conditions of Ansco Company's \$5,000 Loveliest Women Contest, one of which conditions was that the prize winning photographs would be shown at San Francisco.

One of the judges who had attended the photographic exhibition recently held in New York City at the Grand

Central Palace under the auspices of the Photographic Dealers' Association, noticing that the Ansco line was incomplete, turned to the jury and remarked: "Gentlemen, the Ansco Company is making the finest small camera I have ever seen. In fact, in my opinion it is the best camera of that particular style in the world; but since they have not seen fit to place it on display we cannot take it into consideration." On the strength, however, of such Ansco goods as were accessible to the jury the Ansco Company was awarded the gold medal, and also the medal of honor, the latter being the highest award for professional photographic goods.

The studio equipment and professional goods which merited and received the highest award represented by the medal of honor, were the following: New York Studio Outfit with Ansco Upright Studio Stand, Ansco Printing Machines and Professional Cyko Paper.

The gold medal was awarded to Ansco Amateur Cameras, Ansco Film, amateur grades of Cyko paper, Ansco and Cyko chemicals.

The line of small cameras referred to by one of the photographic members of the jury as "the best camera of that particular style in the world," and which could not be taken into consideration because not on exhibition, is that represented by the Ansco Vest Pocket series.

The proof piles up daily that "If it isn't an Ansco it isn't the best" is not a mere slogan coined for the purpose of procuring a prize offered by an advertising manager, but a natural outburst based on facts.

MR. JOHN J. BAUSCH, HEAD OF BAUSCH
& LOMB OPTICAL CO., CELEBRATES
HIS EIGHTY-FIFTH BIRTHDAY

Mr. John J. Bausch, president and founder of the Bausch & Lomb Optical Company, celebrated the eighty-fifth anniversary of his birth, July 25th. Before leaving his office, Mr. Bausch was met by a committee representing the entire working force of the plant and presented with a large volume containing a salutation signed by every one of the 2,500 employees of the company. The presentation was made by William Wishart, Fred Herbst, William Allan, A. Grebe, Harry Moody and Joseph Hammele.

Mr. Bausch's response to this tribute became known when the employees received their pay envelope. In each envelope was a card which read:

"On July 25, 1915, I will have reached the eighty-fifth anniversary of my life, and being able to enjoy my work in daily association with my employees, I desire to give expression of my feelings of gratitude by contributing ten thousand dollars to the pension fund, ten thousand dollars to the relief fund and by making Monday, July 26, a holiday with full pay."

Although 85 years old, Mr. Bausch is at his desk every day and takes as much interest in the work as he exhibited when the great plant was in its infancy.

★ ★ ★

MOVING PICTURES: HOW THEY ARE
MADE AND WORKED, by Frederick
A. Talbot. Profusely illustrated
with many drawings and photo-
graphs. 340 Pages. 8vo. Cloth.
\$1.50 net. Postpaid, \$1.65.

Few know of the romance, the adventures, the great preparations and marvellous ingenuity that go to make up the picture plays we see. Mr. Talbot tells all about the subject, and a reading of this remarkable book will acquaint you with the inmost secrets of the moving picture stage, and it will open to many photographers a new field of work.

This is the first book ever published on cinematography suitable for the layman. The author has managed to make the romance "behind the scenes" of the bioscope as alluring as the actual performance. He tells us how, for instance, a complete company of players and a menagerie were transported to the depths of California to obtain sensational jungle pictures; how an entire village was destroyed in imitating an Indian raid, and a hundred other exciting and bewildering incidents.

At the same time it is intended to fulfill the purpose of a popular textbook without dipping into physics, chemistry or mathematics. The expert moving picture man will find it a fund of valuable information, and the novice, from the instructions given, will be able to take and project moving pictures.

★ ★ ★

Mr. George Eastman has presented the citizens of Rochester with another of his generous philanthropies, consisting of a subscription of from \$250,000 to \$300,000 for a new free dental dispensary, together with a further sum of \$30,000 a year for five years for maintenance purposes, and an endowment fund of \$750,000 at the end of five years—a total of about

\$1,200,000. Some idea of what Mr. Eastman has done for Rochester may be gained from reading the list of his published benefactions. It now exceeds \$3,400,000 and is made up of the following items: Free Dental Dispensary, \$1,200,000; University of Rochester, \$575,000; Chamber of Commerce, \$500,000; General Hospital, \$400,000; Y. M. C. A., \$285,000; Mechanics Institute, \$225,000; Cobb's Hill Park, \$60,000; Homeopathic Hospital, \$60,000; Hahnemann Hospital, \$50,000; Durand-Eastman Park, \$50,000; S. P. C. C., \$45,000; Y. W. C. A. and I. S. H., \$25,000.

☆ ☆ ☆

The following are the winners in the Fourth Photo Contest of the Rochester Photo Works: First prize, Lawrence Baker, Marietta, Ohio, "Spring Landscape;" second prize, A. Stettenbenz, Buffalo, N. Y., "Snookums;" third prize, G. H. Seip, Philadelphia, Pa., "Winter Scene;" fourth prize, W. S. Davis, Orient, L. I., "Sunset Glow;" fifth prize, H. W. Congdon, New York City, "Marksmen All."

Those receiving Honorable Mention are as follows: First, Mrs. Fletcher, San Francisco, Cal., "Autumn;" second, Chas. Smyth, Denver, Colo., "View of Denver;" third, H. D. Williar, Baltimore, Md., "A Bit of Holland;" fourth, Wm. Fisher, Baltimore, Md., "Outing;" fifth, H. W. Congdon, New York City, "Outcasts."

☆ ☆ ☆

Folmer & Schwing Division, Eastman Kodak Co., Rochester, N. Y., want negatives made with Graflex cameras. Liberal prices will be paid, but send a proof of what you have. A prompt reply will be sent you, stat-

ing whether the negative can be used and the price paid.

☆ ☆ ☆

NEW DIFFICULTIES FOR GERMAN MANUFACTURERS

Just after it became known, in December of last year, that on account of the seizure of nitric acid the production of silver nitrate would be impossible, or at least doubtful, steps were taken by the Union of Manufacturers of Photographic Materials to ward off the threatened danger; for there really was danger, because without silver nitrate the practice of photography would be impossible. Even the military authorities were affected by it because the dryplates and photographic papers required for technical war-purposes could no longer be manufactured. Urgent representations, however, were not forbidden, and the nitric acid was supplied for making silver nitrate. It was also ordered that where silver nitrate is obtainable it may be sold and used in any quantity without further trouble. Hardly, however, was this difficulty disposed of when the question of getting nitric acid for making collodion arose, so that at least they might be able to make collodion paper. In this also relief was soon obtained.

Now our industry is threatened with a new danger, because as a result of the confiscation of all nitric acid the manufacturers find it impossible to get enough collodion. The manufacture of silver nitrate is also again in question, so that efforts are being made to find a substitute. The query has been made especially, whether in the preparation of emulsions silver sulphate could not take the place of the

nitrate. The difficulty arising from the confiscation of nitric acid is all the greater on account of the greatly increased demand for photographic papers caused by the war, and most of the factories, owing to the scarcity of materials and workmen, are not in a position to fill their orders. With the portrait photographers, who form only a fraction of the whole industry, the scientific and reproducing branches are hard hit. Nevertheless, it may be counted upon as certain that the efforts of the manufacturers in conjunction with the authorities will succeed in finding means to make possible a larger production.—*Photographische Industrie*.

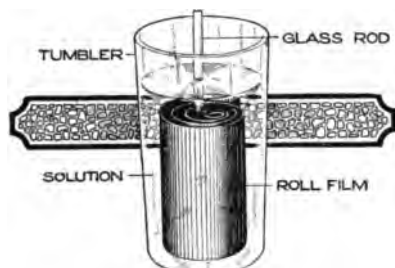
★ ★ ★

NEW METHOD OF DEVELOPING ROLL FILMS

Many devices have been made for developing and fixing roll films. There is the simple wholesale method of the professional who hangs a weight on one end of the film and lets it down in a deep tank of developing fluid where it hangs submerged from an upper support until the developing is complete. Then the support, the film, and attached weight are removed, dipped into a similar tank of running water, then to another tank of fixing solution, and subsequently washed and dried.

This is the only practical plan where there are many such films to be handled simultaneously, but the amateur who has only one or two rolls a week cannot afford the tanks, the space, nor the expense incident to such a method. The film is usually drawn back and forth through a developing solution placed in a tray, and after the de-

velopment has proceeded far enough, the same process used in washing, then the hypo solution, and finally through the last washing for about 20 minutes, all making a tedious process.



An Ordinary Drinking Glass Used for Developing Roll Films

Some amateurs and a few professionals who but occasionally develop a roll film use a mechanical device that rolls the film into a light-proof package which is inserted in a metal tank for development and subsequent fixation. This is a standard process, the apparatus being on sale at all supply houses, but it has its drawbacks.

The following method is not only simple but perfect in its operation and requires no special apparatus, only a tumbler or lemonade glass, and an ordinary lead pencil for its operation. A glass rod is preferable to the lead pencil, and it is also convenient to have a deep tin cup, or similar device, to cover up the lemonade glass and make it light-proof, should it be desirable to turn on the white light in the dark room.

Pour enough developing solution into the glass tumbler to cover completely the roll of film when it is standing on end. In the dark room open the film roll, remove the backing paper and the paper ends on the film, run it through clear water until it is thoroughly and uniformly wetted from end

to end, and drop it endwise into the tumbler of developer. Immediately insert the pencil or glass rod into the center of the roll, and with a rather quick circular motion, move the rod around so that it will quickly pass between the several convolutions of the film and thus distribute the developer all over its surface. Repeat this operation at once, then again in a few seconds, then in 15 or 20 seconds, then in 30 seconds, then in 1 minute, and so on, with greater intervals of time. If a 20-minute developer is used it will only be necessary, at the latter part of the development, to separate the layers every 2 or 3 minutes.

When the development is complete, pour off the solution and rinse in the same glass by letting water run through it while passing the pencil or glass rod between the layers several times. The water may then be drained off, and the glass filled with the fixing solution. While the film is fixing, the glass rod should be passed between the layers several times to renew the solution in contact with the film.

It will be seen that at no time after the first washing is it necessary to handle the film, so that damage to the film and staining the fingers are entirely eliminated. Further than that, no apparatus is tied up in the operation, and if a light-proof cup is at hand, the developing tumbler may be covered between the operations of separating the layers of film, and the white light of the dark room can be turned on for further operations.—*Popular Mechanics*.

☆ ☆ ☆

THE LIGHTING OF DISTANT VIEWS

It is often found that some distant

view, a panorama of the town from a point of vantage half a mile away, or something of that kind, possesses good selling value, but that considerable difficulty is experienced in getting a negative which will show with sufficiently clear detail the points of the subject. This is usually due to two things. One, the haziness of the atmosphere, and the other the lighting of the subject. A good strong direct sunlight from the side is best, and a clear hard light should be chosen in preference to anything more sympathetic. If it is impossible to avoid a slight smokiness or haze in the distant portions a slow orthochromatic plate may be used with a light-filter which will cut out the blue of the haze and give better contrast to the distance. Over-exposure must be avoided, and if there are near trees it will be almost essential to under-expose for these, giving perhaps as full an exposure as possible for the distance, and so getting some detail in the nearer shadows. If the shadows are quite near, however, it is little use troubling about them, for faint detail visible in the negative will be lost when the print is made, and these very near shadows will not suffer by a shortened exposure, while the distance will gain. In some cases the distance may be photographed together with the sky giving a short exposure, while the foreground may be taken on another plate. Into a print from the foreground plate both sky and distance may be printed in much the same way that a sky is usually added to an average landscape.

B. J. of P.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

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Photographers Sell Post Cards from
your negatives. Put
them in the stores, there is money in it.
YOU HAVE THE NEGATIVES, WE WILL MAKE THE CARDS

100 from 1 negative, \$ 2.00	from 5 to 10 negatives, \$ 3.25
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500 from 1 negative, 6.25	from 5 to 10 negatives, 8.00
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Delivery from 3 to 5 days, return postage 10 cents per 100
Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens
in cells, with case, will cover 5 x 7 plate wide open,
\$18.00 post paid.

We take cameras, lenses, etc., in exchange.
Ask us before buying.

WRIGHT PHOTO SUPPLIES RACINE, WIS.

REPRESENTATIVES WANTED—Opportunity for Amateurs and Professionals to make big money. This company pays more for photos than any other concern. It is their purpose to complete their force of representatives—you may become a part of this world organization—the largest of its kind. Send for data. Associated Photo Press, 625 Sterling Place, Brooklyn, N. Y.

KEEP yourself posted. Read all the advertisements in this issue carefully—and don't forget to mention THE TIMES when you write.

STOP! LOOK!

Our New No. 19 **BARGAIN LIST** which is now ready is better than ever. Contains some startling values in Cameras, Lenses and Photographic Supplies. Imported Ica and Butcher Cameras. Headquarters for Cyko Paper.

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SEND US the names of your friends who are interested in photography—we want to send them a sample copy of **THE PHOTOGRAPHIC TIMES.**

Practical Photography

is the name of a new series of photographic books which will treat of various photographic subjects of present-day interest in a thorough and practical manner. Each one will give all the information on its subject which seems to the editors to be worth the attention of the average worker. The books will be well printed, sewed to open flat, illustrated when necessary, and will fit the pocket. They will sell at 25 cents in paper and 50 cents in cloth, and you can get them from most photographic dealers. Two are ready now.

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is a thorough guide to exposure under all conditions, and will enable you to make perfect negatives every time. All the factors of exposure are fully explained, exhaustive tables given, and the use of meters thoroughly gone into.

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contains some hundred practical paragraphs on how to make perfect negatives and prints, written from long experience and useful to every photographer. If your dealer does not have them, we will send them postpaid on receipt of price.

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Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

To Know

"How to Make Good Pictures"

Read It.

Books that are readable as well as instructive are few and far between, but "How to make Good Pictures" fulfills these two conditions easily. As far as readability goes, it is almost a case of you open the covers and it does the rest—the reading is automatic. And as for instruction, the amateur gets farther and farther away from the novice class with each succeeding page.

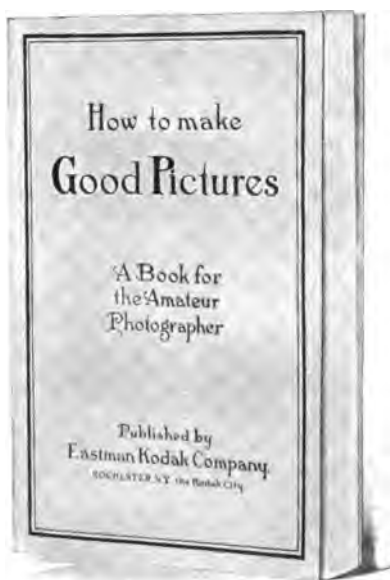
The information in "How to make Good Pictures" is all authoritative—the book steers clear of theory and deals exclusively with facts. The editors know photography because they have lived it—their knowledge was gained by hard work and their early mistakes and failures were still fresh in their memory as they wrote. So it is that they are able to divert you from the pitfalls that impeded their progress and to show you the right methods of working from the start.

The book opens with a chapter on lenses. This might well be a deep subject, so deep that many a reader might go down for the third time, in the middle of the second paragraph; but the lens information in "How to make Good Pictures" is shorn of bewildering technicalities and confusing theories.

It tells the amateur just what he should know about his Kodak lens and *the amateur knows.*

This chapter is indicative of the method of handling the many subjects of which the book treats. Out-of-door work, home portraiture, flash light work, printing and developing, enlarging, etc., are presented with all the detail necessary for a clear understanding of the right methods of procedure and the possible pitfalls, with no sacrifice to simplicity and directness.

"How to make Good Pictures" contains over a hundred illustrations which serve both to amplify and explain the text.



Paper Covers, - - - \$.25
Cloth Covers, - - - 1.00

BIG PICTURES

There are always choice subjects among your vacation pictures. Either you are proud of a particular negative or the subject has some special interest.

In either case an enlargement puts emphasis on that particular picture.

You can make these enlargements the Vest Pocket Kodak or Brownie Enlarging Camera way. Just place the negative in the small end of the Enlarging Camera, the Velox paper in the other, expose to daylight, develop and fix.

(1)

Eastman Kodak Company

ROCHESTER, N. Y., The Kodak City.

PUT YOUR VACATION IN BOOK FORM.

To keep the summer's fun alive for you and your friends, why not devote one of the smaller Kodak albums to the 1915 vacation exclusively, using both pictures and original text? The pictures properly arranged in an album have a heightened interest, possible in no other way, while the text, amplified from the Autographic records, makes the story absolutely complete.

A friend of our's has followed this practice for sometime. Each vacation is given a separate book and each book is complete in itself containing both pictures and written story. The pictures are from 3A negatives, but many of them have been improved by careful trimming so that the size of illustrations is not uniform. Incidentally, the fact that the pictures are not all one size, offers possibilities for attractive page make-ups and eliminates any chance of picture monotony. The album leaves are black, so that the accompanying story is written in white ink—a very effective scheme. Our friend has no particular gifts as a writer, but a good time is the easiest thing in the world about which to write entertainingly. You *did* have a good time and this fact puts you in a properly enthusiastic mood at once—the story almost tells itself. And what you leave out or fail to explain, the pictures supply. In fact, in our friend's album, the pictures bore the brunt of the story telling, but the text *did* help and the combination was thoroughly delightful.

This particular amateur may have gone into the thing a little more elaborately than some of us would care to go. For example, he had taken his albums to the book binders and had "Yardland Yarns," (Yardland is the name of a summer colony), with the date and his name neatly gold stamped on each cover. But, even with less effort ex-

pected, the results would be thoroughly worth while.

A story album of this kind, by the way, makes the nicest kind of a gift—the nicest kind because it bears the personal touch. As a remembrance to a host, who may have made certain of our good times possible—the album story goes far to make him feel that he is your debtor, not you, his.

And speaking of appropriate gifts, the New Year Book Calendar is going to interest you immensely when you start your Christmas plans—and you can never get them under way too



The Year Book Calendar.

early in the season. The Year Book Calendar is an entirely new feature, and is as attractive, as it is novel. It consists of twelve mounts on each of which is the month's calendar. The mounts are contained in a carton having an easel back and may be easily shifted from month to month. The color scheme is Swiss Gray and London Brown,—suitable for either black and white or sepia prints. Home pictures, vacation pictures, any kind of picture as long as it has a personal interest to the recipient, may be neatly mounted while at the left of each calendar, space

(2)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

has been reserved for an appropriate little story suggested by the picture. As a memento to give to the friends who helped to make good times good, the Year Book Calendar containing pictorial and written evidence of those good times, could hardly be improved upon.

The Price

Year Book Calendar, - - \$.50

KODAK CARD MOUNTS.

There are many pictures that we like to have before us all the time either because of their natural beauty or because of the pleasant memories they revive. It is necessary, of course, that such prints be appropriately mounted, and the amateur is sure to make a pleasing selection from the tasteful line of Kodak Card Mounts.

There is no more effective method of mounting prints than double-mounting but, being more or less human, most of us would be more than willing to secure double-mount effect without double-mount work. The "Drimount" does just this. Printed in two shades, one for the center of the mount, the other for the border, the effect of double-mounting is admirably secured. When the print is mounted, just enough of the center shade appears, to neatly border the picture, while the predominant color of the card serves to throw both border and print in relief. It is only by the sense of touch that the effect of double mounting can be dispelled. As far as appearance goes, the "Drimount" is a double mount.

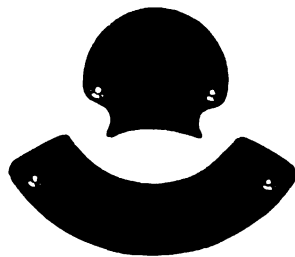
The "Drimount" is well adapted to almost any kind of a picture. It is essentially the mount versatile being equally effective for portraits or landscapes.

It is manufactured in a variety of sizes to fit pictures from post card size up to enlargements, as large as 11 x 14

inches. It may be secured in two colors, English Gray and Sepia-Buff, and the price ranges from twenty-two cents a dozen upwards, according to size.

Another and perhaps more novel mount is the "Woodmat". Here the impression created is that the print is not only mounted but framed. The print is mounted on a slip-in principle, while the mount border gives the effect of a rich brown, wooden frame. The "Woodmat" is sized for prints from $2\frac{1}{4} \times 3\frac{1}{4}$ inches up to $4\frac{1}{4} \times 6\frac{1}{2}$ inches and is priced from five to ten cents per mat.

The experience is on the scale.



The Kodak Autotime Scale

tells you at a glance the proper exposure under any condition of outdoor photography.

Attached to the shutter of your Kodak, its information is always in plain view; you have but to set the speed and diaphragm indicators at the points governing the conditions under which the picture is to be made and the correct exposure is assured.

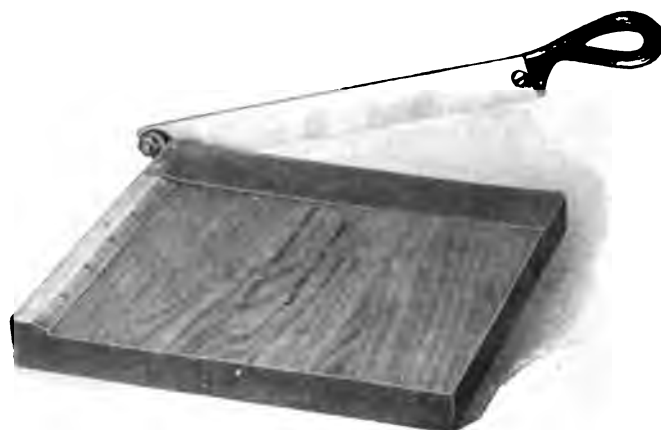
THE PRICE.

Kodak Autotime Scale, \$1.00 and \$1.50
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The rule, steel blade, and exact construction of the



Kodak Trimming Board

insure even white margins on the prints that demand them.

And then there is the chance to edit your picture copy. Clip, and uninteresting foreground, blank sky or distracting details take their proper place in the waste basket.

THE PRICE

KODAK TRIMMING BOARDS

No. 1, capacity, 5 x 5 inches,	-	-	-	\$0.40
No. 2, capacity, 7 x 7 inches,	-	-	-	.60
Transparent Trimming Gauge (extra),	-	-	-	.20

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The New
No. 2 Folding
Autographic
BROWNIE

Price,
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ALL the Brownie simplicity of operation—but a long step ahead in compactness and efficiency—and it has the *Autographic feature*, heretofore incorporated only in the Folding Kodaks.

Cleverly constructed, it is exceedingly compact although nothing has been sacrificed in length of focus of lens or efficiency of shutter in order to reduce the size.

Specifications: No. 2 Folding Autographic Brownie, for $2\frac{1}{4} \times 8\frac{1}{4}$ pictures. Loads in daylight with Kodak Autographic Cartridge of six exposures. Size $1\frac{1}{4} \times 8\frac{1}{4} \times 6\frac{1}{2}$ inches. Fitted with meniscus achromatic lens. Kodak Ball Bearing shutter with variable snap-shot speeds of $1/25$ and $1/50$ of a second, also time and "retarded bulb" actions. Shutter is equipped with Kodak Autotime Scale. Camera has Automatic focusing lock, two tripod sockets; is made of metal, covered with a fine imitation leather and finished in every detail.

Price, with meniscus achromatic lens, - - - - \$6.00

At all Kodak dealers'.

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The only

Grand Prize

and therefore *the only* “*highest honors*” pertaining strictly to photography at the

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was awarded to the

Eastman Kodak Company

THE PHOTOGRAPHIC TIMES

PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed December 30th, 1915, so as to be announced in the February Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

Second Prize, \$5.00

Third Prize, \$3.00

And three honorable mention awards of a year's subscription to
THE PHOTOGRAPHIC TIMES.

In addition to which those prints which deserve it, will be Highly Commended.

CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. The subject for this competition is "Flashlights," indoors or out.

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

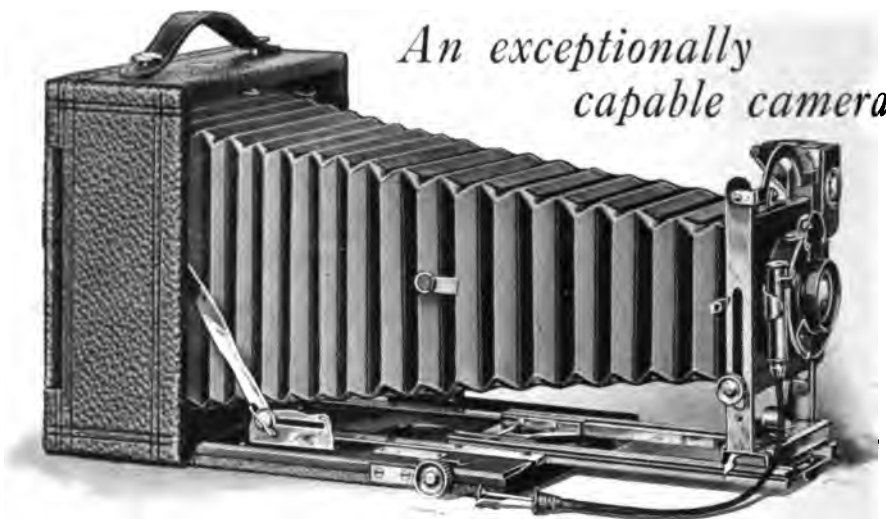
NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received by us not later than December 30th.



*An exceptionally
capable camera*

Premo No. 9

So simple and easy to operate, so compact as to make a most desirable camera for snap shot and general amateur work. So thoroughly equipped and tested as to provide an efficient outfit for a wide variety of "special" work.

It has a bellows of such length that the rear lens combination can be used alone, producing pictures of objects at a distance double the size made with the complete lens.

The shutter is the Kodak Automatic with Kodak Auto-time Scale. The lens is the Planatograph, the best R. R. lens procurable.

The camera has reversible back, rack and pinion for ground glass focusing, rising and falling front, and swing bed, a great advantage in architectural work. It will take films or plates with equal facility.

Prices: 4 x 5, \$28.00; 3A (3¼ x 5½), \$28.00; 5 x 7, \$33.00.

Premo catalogue at all dealers', or mailed on request.

Rochester Optical Division, Eastman Kodak Co., Rochester, N. Y.

25 CENTS

WILL BRING YOU THE
*Amateur Photographer's
Weekly*

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That means that you will get **13 copies** of a photographic journal that is written from the point of view of the beginner in photography.

You will find more features in the *Amateur Weekly* than in any other magazine you can buy for \$1.50 per year. **Cash prize competitions are offered every week**, articles that you can easily understand, and which will tell you how you can avoid wasting plates and paper, a Print Exchange, many illustrations accompanied by full data, *Ye Olde Curiositie Shoppe*, and many other features.

When you send a print in for competition and want to know how it compares with other prints sent in, we send you a rating card, judging the print for Composition Pictorial Quality, etc., so that you can find out where your faults lie and improve them. With the new year other features are to be inaugurated of like value to the amateur who wants to improve his photographic work.

We send no sample copies, because the value of a magazine cannot be judged from one copy. 25 cents is a small sum and invested in a three months' trial subscription to the *Amateur* you will find it return a hundredfold. **Send it to-day.**

A three months' trial subscription.....	\$.25
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**The
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Weekly**

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AND FILLED WITH
MOMENTS OF BREATHLESS INTEREST

CATCH THE BEST PLAYS
WITH THE FAMOUS

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THERE'S NOTHING TOO FAST FOR IT

We supply the *Ango Camera* with our well known **Dagor, Celor and Syntor Lenses**. Every one is a true **Goerz** in efficiency and quality. Ask your dealer for our latest booklets on **Goerz Cameras and Goerz Lenses**, or write to

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This is a Standard Work. It includes original photographs by the authors and examples from the work of J. Craig Annan, Will Cadby, Alvin Langdon Coburn, Rev. D. G. Cowan, M. A., J. W. Church, H. S. Cheavin, F. R. M. S., Dr. W. M. Daniels, Rudolph Duhrkoop, Frederick H. Evans, W. H. Rogers, T. M. Weaver, and Miss R. M. Whitlaw.

This is a handsomely illustrated and entirely practical volume of over four hundred pages.

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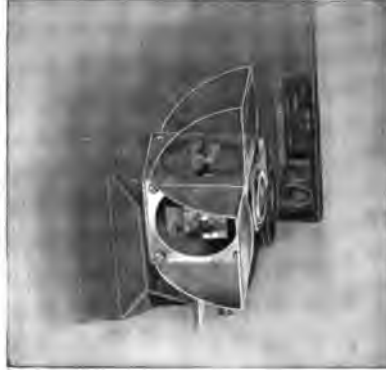
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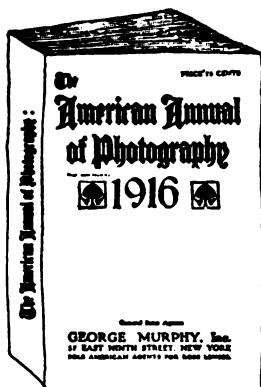
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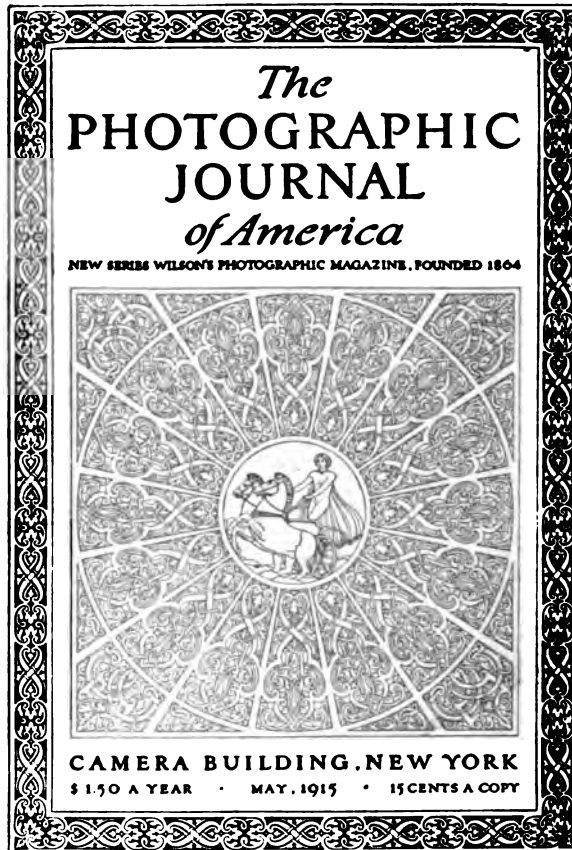
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Volume XLVII

NOVEMBER, 1915

No. 11

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"CHILDREN'S DAY"

John A. Schreurs

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition



VOLUME XLVII

NOVEMBER, 1915

NUMBER 11

THE PHOTOGRAPHIC TIMES PRINT COMPETITION

THE past season has presented an unusual opportunity for outdoor work, both in landscape and figure, and the result of THE PHOTOGRAPHIC TIMES Print Competition, which closed September 30th, has proved most interesting as well as gratifying. It is of interest to note, that, notwithstanding the wide field this competition presented, the majority of prints submitted were of landscape, and comparatively few of figure. In addition to the three prize-winners, and the pictures receiving Honorable Mention, there were nearly a dozen which were highly commended by the Judges. We regret that we are not able to reproduce all of the latter in this number, but they will be presented to our readers in subsequent numbers of THE TIMES.

The first prize was awarded to Miss Elizabeth B. Wotkyns, of Pasadena, California, for her charming picture entitled, "The Sun Dial." Miss Wotkyns is known to the readers of THE PHOTOGRAPHIC TIMES for her striking animal pictures. "The Sun Dial" was taken in a good light, during the month of July, about 4:30 in the afternoon,

with an exposure of $1/25$ th of a second. This was made by an Eastman No. 3 F.P.K., with an R.R. lens on Eastman speed film. The picture is $6\frac{1}{2} \times 8\frac{1}{2}$, enlarged on P.M.C. glossy bromide. Another picture submitted by Miss Wotkyns is "A Glimpse Through the Arch," which the Judges have highly commended, and which we take pleasure in showing in this issue.

The second prize is awarded to Mr. R. B. M. Taylor, of Newark, N. J., for his very effective figure picture, entitled, "Making Friends." This picture is an enlargement on Cyko Platinum, and was made by a Popular Pressman Camera, on a Defender Orthochromatic Plate, at about 5:30 p. m. in August, with an exposure of $1/50$ th of a second, in a fair light, and a stop of $f/4.5$. Mr. Taylor also sent several other enlargements, which received special commendation by the Judges.

Third Prize, entitled "Summer Days," was awarded to Mr. J. M. Kinney, of Muncie, Ind., and is very expressive of a well-chosen title. One can note the sheep in the shade on this summer day. This print, Mr. Kinney



"THE SUN DIAL"

Elizabeth B. Wotkyns

First Prize in THE PHOTOGRAPHIC TIMES Print Competition

tells us, was made in a bright light, about 11 a. m. in July, exposure one-half of a second, stop $f/32$, on a C.26X plate, printed on Professional Cyko paper.

The first picture to receive Honorable Mention by the Judges is "The Portrait Study," by Mr. John Buell, of Whitewater, Wis. This was made on a Cramer plate, with Helier No. 5 lens, quick bulb exposure.

The second picture to receive Honorable Mention is, "Behold! I Pierce the Clouds," by E. D. Leppert, of Junction City, Ore. This is a particularly fine sample of landscape, on

Orthonon plate. The lens was an R.R. with four-time filter, stopped at 32, one second exposure in a bright sunlight. Mr. Leppert submitted several other prints and that of "The Prospector" was particularly commented on by the Judges.

The third print to receive Honorable Mention is entitled "In Sunset Glow," by Wm. S. Davis, Orient, N. Y. Mr. Davis is well known to the readers of THE TIMES, and his pictures are always of a high quality. This print is an enlargement on Velour black paper, with a rough surface, effectively toned in Sepia with sulphide, and stained



"MAKING FRIENDS"

R. B. M. Taylor

Second Prize in THE PHOTOGRAPHIC TIMES Print Competition

with analine. The original sheep study was taken on a hazy November afternoon against the light, exposure $1/10$ second, stop $f/11$, single Achro lens, on a Cramer Inst. Iso plate. From this the enlargement was made, and the clouds printed in from another negative; then a new negative was taken from this combination print. This method Mr. Davis has explained in his article on "Combination Printing," in our October issue.

The pictures Highly Commended by the Judges which have not been awarded prizes, or otherwise mentioned in this report, are as follows: "When the Pigs Eat," by A. R. Brown, Melrose Highlands, Mass.; "A Breezy Upland," by Charles F. Rice, Mamaroneck, N. Y.; "The Rapids," by H. A. Brodine, Pittsburgh, Pa. Mr.

Brodine also sent several other effective prints, one especially being, "Entering the Harbor." "Midsummer," by Mrs. C. S. Hayden, Catonsville, Md.; "Beaverkill Falls," by George H. Heydenreich, East Orange, N. J.; "By the Lake," by H. M. Edwards, New Brighton, N. Y.; "Sunset," by J. H. Field, Fayetteville, Ark.; "A Glimpse Through the Arch," by Elizabeth B. Wotkyns, Pasadena, Calif.; "Coaxing the Last Spark," by R. B. M. Taylor, Newark, N. J.; "Children's Day in the Park," by John A. Schreurs, Highland Park, Ill.

Other pictures, not of high enough merit in the estimation of the Judges to receive Honorable Mention, or High Commendation, nevertheless received high approval as excellent examples of



"MID-SUMMER"

C. S. Hayden

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition



"A GLIMPSE THROUGH THE ARCH"

Elizabeth B. Wotkyns

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition



"WHEN THE PIGS EAT"

A. R. Brown

Honorable Mention in THE PHOTOGRAPHIC TIMES Print Competition



"SUMMER DAYS"

John M. Kinney

Third Prize in THE PHOTOGRAPHIC TIMES Print Competition

outdoor photography. Some of the more distinguished in this group are: "The Summer Girl," portrait, by Wm. Ludlam, Jr.; "The Westerning Sun,"

by Alice Willis, St. Louis, Mo.; "Outdoors in Winter," by Floyd Vail, New York City; "The Sun Path," by Miss Anna MacRae, Clarksville, Tenn.

HOW STRANGE IT SEEMS

To think this little photograph,
On common paper lightly cast,
May look into your face and laugh
When I myself have wholly passed.
—Ella M. H. Gates, *Harper's Magazine*.



"BY THE LAKE"

H. M. Edwards

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition



"BEHOLD! I PIERCE THE CLOUDS"

E. D. Leppert

Second Honorable Mention in THE PHOTOGRAPHIC TIMES Print Competition

AUTUMN WOODLANDS

BY J. H. SAUNDERS

WHEN autumn stains the woods with gold, photographers should be just as busy as they are in the summer months. For one thing, the camera is particularly successful in dealing with mist, and this, combined with the fact that the subject is more or less composed of shades of brown, makes the task of rendering in monochrome not so difficult as when the woodlands are a blaze of vivid green.

Again, there are other circumstances which favor the landscape photographer at this season. The contrasts to be met with are generally less violent, and there are many days when the

air is quite still, allowing us to give exposures as long as may seem to be necessary, and making the task of determining the correct exposure more easy.

It is essentially morning work, and I invariably arrive upon the scene of operations before the sun makes its appearance. As the real spirit of an English autumn is illustrated in pictures where the beautifying effect of mist or combination mist and sun is shown, I would particularly impress upon photographers the importance of being in the woods before the sun gains power and disperses the mist entirely.



"A BREEZY UPLAND"

Charles F. Rice

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

Subjects can be secured in autumn that are not possible at any other season, because compositions are simplified, the mist obliterating irritating backgrounds and causing them to emerge into a delicate suggestion of distance.

How often when engaged in landscape work have we been attracted by a few trees that composed well in the foreground but were utterly spoiled as a picture, because the subject behind was too confusing? A note made of such subjects as these, and a visit paid to the same place in the early morn of an autumn day, will often be well rewarded.

Mist and sun effects are very fleeting, and the photographer must be prepared to take quick advantage

when the ideal morning occurs. A few minutes on such an occasion may make all the difference between success and failure.

The plan I adopt is to have my compositions arranged in rough fashion beforehand. A few previous unproductive visits taught me this wisdom. Several times on ideal mornings I had ventured forth in search of atmospheric woodland effects, only to find that when I had composed a likely subject on my ground glass all atmosphere had disappeared and the distance was just as distinct as the foreground. Now I make up my mind what part I shall photograph, and before the photographic outing I pay a visit to the place and memorize all likely subjects, so that when I take my camera



"IN SUNSET GLOW"

Wm. S. Davis

Third Honorable Mention in THE PHOTOGRAPHIC TIMES Print Competition

I have no necessity to waste precious time in search of compositions. Naturally, the woodlands visited are in the vicinity of my own town, and in no case more than five miles away from home.

It might seem rather an arduous task to cover the ground twice before getting to work; but when one is specializing it is better worth while to secure one success than half a dozen indifferent results.

As the subject is mostly of brown shades, it is evident that ordinary plates are of little use, and we require color corrected plates. Orthochromatic plates with a five times screen, or self-screened plates, will translate

the autumn tints into effective monochrome, but the best possible plates are panchromatics, which do better justice to the red browns. As they require more careful handling, many photographers fight shy of them.

Some very fine effects can be got by photographing against the sun, but it must be done before the latter gains much power.

In conclusion, I would advise the photographer to put on a stout pair of boots and leggings, as it is exceedingly wet amongst the undergrowth in the early mornings of autumn, and when one feet's are wet enthusiasm also is quickly damped.—*Photography.*

A NEW FIXING BATH FORMULA

BY G. WATMOUGH WEBSTER, F. C. G.

I AM about to disclose for the benefit of the readers of THE PHOTOGRAPHIC TIMES what I believe to be an entirely new formula for a fixing bath for bromide prints that I have had in successful use for some considerable time.

We might first consider what are the functions of a "fixing bath" and show how they have been performed hitherto. They are, first, to remove the unused silver salts, next act as a stop to arrest further development (for it is well known that a print if not fully developed will go on developing for a while even when washing in plain water); and finally, to act as a tanning or hardening agent upon the gelatinous surface of the print making it less liable to injury while being washed, and, incidentally, to prevent blistering in cases where the paper is liable to that defect, which unfortunately, since the war has prevented the obtaining of the raw paper and cardboard from the usual continental sources, is no uncommon defect in the substitutes.

Possibly the tanning action is the one on which most store has been set, and it has been carried on in a variety of ways. Many photographers use an intermediate bath of common alum before placing the prints in the hypo solution, but by far the commonest plan is to add the powdered alum to the hypo solution in various ways. The printers employed by one of the largest producers of the small midget photo-

graphs in this country (he has eighteen branches) simply add a handful of powdered alum to the hypo solution and disregard entirely the milkiness caused by the precipitation of sulphur that ensues and I may say I have seen many of his photographs several years old which were quite free from fading, and, indeed, as fresh looking as on the day they left his studio. But perhaps the commonest method of all is to make a bath containing both alum and an acid. Various acids are recommended and the formula published by a large manufacturer here is a favorite. It consists in adding sulphuric acid to a solution of sulphite of soda and then mixing this solution with a solution of hypo and finally adding alum solution, with violent shaking. If done successfully, which does not always happen, there is scarcely any milkiness produced and there is obtained a useful acid, hardening fixer. But at the best if the solution is kept in glass bottles they soon become opaque looking from a deposit of sulphur on the inside of the glass vessels. Personally, I exceedingly dislike bottles or utensils with any deposit upon them, and I found when using this formula that the bottles were readily cleaned and the deposit removed by pouring a little strong hydrochloric acid, the common muriatic acid or "spirit of salts," of the stores suffices. A small quantity poured into the empty bottle (previously rinsed out with water) and



"BEAVERKILL FALLS"

Geo. H. Heydenreich

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

then by shaking the bottle made to pass over the whole surface will quickly soften or remove the deposit and leave a perfectly new looking bottle after being washed out with a few changes of water. Instead of acidified sulphite solution meta bisulphite of potash, or bisulphite lye, can be used, but the moment there is any alum added down comes the sulphur, and whether it introduces an element of danger or not one's feelings revolt at using a decomposed hypo with possible danger to permanency.

Some printers prefer to use chrome alum, but there is no special advantage claimed for it and besides it is more costly than common alum—potash alum.

From these initial remarks it may be concluded that a hypo fixing bath containing alum and an acid that will not deposit sulphur and will not become

milky may be looked upon as a typically perfect fixer.

I need not describe the large number of experiments I made in ringing the changes with the various acids and strengths till I finally chose citric acid as the one offering most advantages and least likely to cause precipitation. This acid seemed the best and I used it in compounding the bath till the happy thought came to me of adding citrate of ammonia in view of well known reactions to the solution. "Eureka!" I cried. At last I discovered how to make an acid alum hypo bath which never goes milky and does all that is required in fixing prints as set out in the earlier part of these remarks and the following instructions will enable any one to make this perfect fixer which I confidently expect will take a place in all makers instructions, and in the text books in the fu-

ture. Now we all know how conservative photographers are and how loath to add another chemical to their shelves, hence a new formula will have a better chance of trial if it involves the employment of no other chemicals beyond those already in stock. In giving formula for various solutions and the formula to follow takes count of his conservatism. As a rule I prefer to state quantities in terms of the solid chemical itself when giving proportion but in this case I propose not to adhere to my usual rule but give the method of compounding the new bath in terms of *solutions* of definite strength, as no photographer with any pretensions to system would make up a plain hypo bath by dissolving the crystals as he wants them. The same with sulphite of soda, for, notwithstanding all that has been written about its gradual absorption of oxygen, a Winchester quart (half a gallon) of twenty per cent. strength will be practically as useful at the end of a month as when first made provided the bottle that holds it has a good stopper, and this, too, if the bottle be several times used from. Therefore, let the following solutions be kept ready for use—a

- 50 % Solution of hypo
- 20 % Sulphite of soda
- 25 % Citric acid
- 6½% Common alum

Ordinary stout ammonia solution (SG 880) a Winchester of both is made as follows: Larger or smaller

quantities can easily be made by multiplying or dividing these quantities: To 1 ounce citric acid solution add 40 minims of strong ammonia solution. (The mixture will become quite hot but that does not matter.) Add this mixture to 8 ounces sulphite solution. After well mixing add this liquid to 20 ounces alum solution and shake well. Finally add this combined mixture to 32 ounces hypo solution and make up with water to a bulk of 80 ounces. We then have a fixing bath containing 20 per cent. of hypo, that being the most commonly advised strength. The bath remains quite clear for weeks, and no danger to permanency need be feared as regards prints fixed in it. The whites remain pure and the softest surface is rendered hard and resisting to friction while washing.

I may say in this connection that a ten per cent. hypo bath has much to recommend it, especially with those papers which have a tendency to curl in washing and curled prints are liable in the washing trough to stick together like a number of saucers. The tendency is less with weak hypo. I hope as many of my readers as possible will try this new bath. They will never go back to the old system.

There are besides certain other special advantages attaching to its use; but these I will not now discuss and will leave to some future article.

MAKING PRINTS IN TWO OR THREE COLORS FROM ANY NEGATIVE BY CHEMICAL MEANS

BY "CHEMICUS"

HOW to obtain prints in various colors from the ordinary negative has been the dream of many. Prints steeped in a dye, giving a uniform color, is a very easy matter. In all such cases the whites of the prints suffer and become degraded, while the blacks are not really altered in color. They remain the same, with a superficial covering of dye. Chemical toning has been known and practiced for many years, for instance, the changing of the color of a platinum print or a bromide or chloride developed print, but in any instance the color is uniform, simply changing the color of the print in monochrome from one color to another. The object sought is how can a print be made from an ordinary negative, no matter whether it be a film negative or one upon glass, and give a variety of colors so united that they will represent the original object. The process to be described is *not* one that might be termed a process for securing photographs in natural colors. It is a process by which several tints or colors may be produced by chemical means upon the same print, and by this means approximate natural colors. The prints that are best suited for this class of photographic work, are those made by development upon either chloride or bromide papers. The prints must *not* be hard and contrasty; they must be of the grey variety, produced by a some-

what weak developer, correctly exposed and developed. The object being to secure detail in every part of the print, because it will be in those parts that have a faint metallic deposit (namely a slight tendency toward half tone) that the colors will prove to be the most brilliant. The prints must be thoroughly washed before attempting the coloring, because a remaining trace of the fixing chemicals will affect the colors, and aid in staining the paper, thus producing a different color to that desired. The following chemicals will be necessary for the production of the various colors. The quantities given are about the smallest that can be purchased at a reasonable price.

Acetic acid No. 8.....	4 ozs.
Nitrate of manium.....	1 oz.
Protosulphate of iron.....	1 oz.
Ferricyanide of potassium.....	1 oz.
(In an amber colored bottle.)	
Dry vanadium chloride.....	1/2 oz.
Oxalic acid.....	1 oz.
Ferric oxalate.....	1 oz.
Ferric chloride.....	1 oz.
Powdered alum.....	1 oz.
Hyposulphite of soda.....	1 lb.

The following solutions must be made from the above and kept ready for use. When making these solutions distilled water must be used, because the various impurities contained in ordinary water are likely to affect the results. The ferricyanide of potassium, generally known as red prumiate of potash, must be mixed and kept in an amber colored bottle because the action

of light upon this salt will affect its chemical properties and prevent the color from being deposited. The solutions are made as follows:

Nitrate of manium.....	10 grains
Water.....	5 ozs.
Ferricyanide of potassium....	10 grains
Water.....	5 ozs.
Protosulphate of iron.....	10 grains
Water.....	4 ozs.

The following preparation is made up in one solution:

Water.....	10 ozs.
Vanadium chloride.....	10 grains
Ferric chloride.....	5 "
Ferric oxalate.....	5 "
Ferricyanide of potassium....	10 "
Oxalic acid.....	15 "

Having these solutions made, a bath must now be prepared consisting of

Water.....	10 ozs.
Hyposulphite of soda.....	2 ozs.
Common alum.....	20 grains
Acetic acid No. 8.....	1 oz.

If a deposit of sulphur takes place, the liquid must be filtered. This solution may be used many times over. It is used as a clearing solution. Having the prints ready for their chemical treatment, take one, lay it back down upon a sheet of blotting paper, place a small quantity of nitrate of uranium solution in an egg cup, also the ferricyanide of potassium in another egg cup, add a few drops of acetic acid to each, in fact, make the solution very acid. Place in two more egg cups a small quantity of the protosulphate of iron solution, in one, and some of the vanadium solution in the other. Obtain four camels' hair brushes, set in quill (metal set brushes will not do). Use a separate brush for each solution. Place over the face of the portrait, for instance, which may be of a lady

with a floral decoration upon the breast, a small quantity of the nitrate of uranium, also upon the arms or hands, taking care not to allow this liquid to cover the eyes; this done, place a drop or two of the ferricyanide solution upon the uranium, mixing it carefully so as not to overflow. Now, in any part that blue should appear, cover that part lightly with the ferricyanide solution, then add a drop of the protosulphate of iron solution, and in like manner, for green, use the vanadium solution. In the course of a very short time, the various colors will become deposited, a true pink, bordering upon red from the uranium, a true blue by the admixture of the two iron salts, and a green from the vanadium preparation. In the last instance the color may incline to blue until the print is well washed, then the green color will appear. As soon as the colors have presented themselves, place the print into a tray of clean water, handling it with care so that the liquids do not run over any other part of the print except where the color is desired. Wash the print well, then pass it through the acid hypo solution for a half a minute to one minute, then wash it thoroughly, blot it as nearly dry as possible with clean white blotters and dry by suspending with a clean wood clip. The result will be highly gratifying and the colors can be regarded as permanent. In the case of a view, landscape, sea view, or a homestead, especially where the house may be constructed of red brick, the various colors will lend a very charming effect to the scene. A little practice may be required to secure the best effect. A trial or two will



"THE RAPIDS"

H. A. Brodine

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

lead to this. The process will give much pleasure to those who attempt it, and produce photographs in several colors that have been deposited by chemical means. The quill brushes that are used for this work must be well washed to free them from the various chemical solutions, then squeezed dry in the folds of clean blotting paper and laid aside for future use. The various solutions described will keep well if placed away from active light and used at any time required, except the small quantities in the egg cups. These must be poured away and not returned to the stock

bottles, because of any slight contamination, which cause a colored precipitate to be formed and thus spoil the stock solutions. A faint blue tint given to the eyes in some portraits will add to the charm of the picture. Under no condition, however, must the blue, red or green mixtures come into contact upon the print. This would spoil the print, unless it is desired to produce a blue face with red eyes, so as to be suggestive of the blues. A nosegay of flowers and the ornamental portions of a vase may be rendered in very rich colors by this means of chemical coloring.





"LOST RIVER" (before it disappears)
See Editorial Comment



"LOST RIVER" (where it disappears)
See Editorial Comment

A GROUND-GLASS SHADE FOR QUICK FOCUSING

BY CARL THUNIM

ZANNNNNNNNNNG. At once you recognize the voice of the aeroplane. Guided by the sound, you see it overhead. Quickly you snatch your camera from its case. It takes but an instant for your practiced hands to open the front and pull out the bellows. But now comes the focusing. You try to do it without the cloth, but you can't see anything. You then pull the cloth out of the case and try to put it over your head. It struggles in the wind like a thing possessed. At last you succeed in almost excluding all light, and in the meanwhile you have the pleasure of holding the camera straight, holding the fluttering cloth tight, and keeping the ground-glass door open, all in one hand.

The focusing of the tiny machine having been done to your satisfaction, you put in the plate-holder, draw the slide, and look around for the aeroplane. There it is! but so tiny that it would be too small in the picture to show any shape. Ah, if your focusing had taken you less time.

Having gone through an experience like the above, I devised a little shade for the ground glass as in illustration (Fig. 1). The weight of the door (Y) of the ground-glass keeps the whole contrivance open so that, if I look through the opening, my head excludes all light, and I can focus perfectly without loss of time. If the door hinges from the top, simply hold

the camera upside down. Another advantage of it is that the shade is a part of the camera and takes up no extra room.

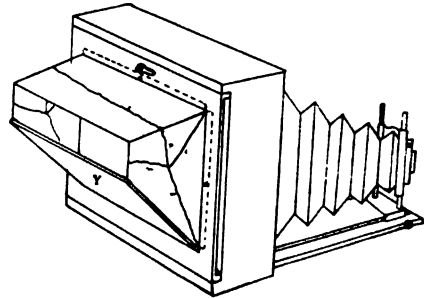


Fig. 1

The material for this shade may be a piece of dark, stiff cloth (like imitation leather) or a piece of very thin leather. If there is very little space between the door and the ground-glass, use the thinnest available material that answers the purpose; if there is plenty of room, use two pieces of thin cloth with cardboard (visiting-card kind) pasted in between them (see next to last paragraph).

First, measure the dimensions of the ground-glass door, and on a piece of paper draw a rectangle ABCD (Fig. 2), having dimensions one-sixteenth of an inch less than those of the door. For example, if the door is $3 \frac{1}{8}$ by $4 \frac{1}{8}$, the rectangle will be $3 \frac{1}{16}$ by $4 \frac{1}{16}$.

Then, draw CF at a large angle X (nearer 90 degrees than 60 degrees) to DC. The larger the angle is, the



"CURIOSITY"

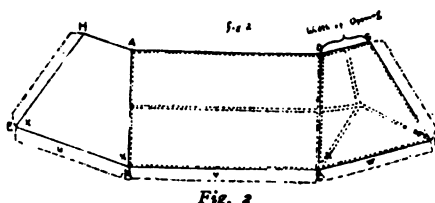
Walter K. Bachrach

broader the opening, and vice versa. Make CF equal to DC. Draw GF at angle X to CF and equal to CF. Connect D to G. On the other side draw ABEH similar to DCFG. All the five flaps as an illustration (Fig. 2).

Cut out figure, lay on cloth, and cut shape out with sharp knife. If none is at hand, trace the form with a pencil and cut out with scissors. Crease all edges (AB, BC, DC, etc.) sharply.

Spread glue on flaps u, v and w and push them in between the ground-glass and its frame (Fig. 1), of course, putting flap v on the side opposite to the hinge of the door. Or remove ground-glass, paste flaps to frame, and then replace glass. Glue the other two flaps to the edges of the door, so

that the door forms the fourth side of the box.



If cardboard is used (see above), the dotted lines in Fig. 2 show the size and shape of the pieces.

With a blunt point go (approximately) over the lines m, n, o, p, r, (Fig. 1), so that fabric should crease there easily. Now close the door and the entire shade will fold up within. If the job is neatly done, the shade will open and close with the opening and closing of the door, and nothing will show on the outside.

THE REFLEX CAMERA—SOME PROS AND CONS

BY A. MANN

THE following remarks are intended chiefly for the man who contemplates buying a reflex camera and is somewhat bewildered by the diversity of patterns shown in the catalogues of practically every maker worthy of the name. These instruments have now been brought to such a pitch of perfection that so far as actual construction and workmanship go there is very little to choose between them, but their variations undoubtedly cause some types to be better for certain work than others. It is hoped that the following notes may prove of service to those who find it a matter of difficulty to arrive at a choice.

Perhaps the most important feature of a reflex is the focal-plane shutter. There are roughly two distinct types, those having an adjustable slit and those which have a long blind with three or more fixed slits of different widths; both are provided, as a rule, with arrangements for increasing the spring tension. As a rule, the former type allow quicker adjustment, and the latter are, perhaps, rather more simple and less likely to get out of order. Some models are fitted with one key only; this determines the exposure by the amount it is wound up, and is, in many respects, ideal; the only drawback appears to be that this provides an alteration of the slit only, and not of the tension as well, and it is an axiom in focal-plane shutter work that one should always use a high tension

and wide slit rather than a narrow slit and low tension, the reason being that if an object is moving laterally and a narrow slit is used, moving relatively slowly, the image on the plate has moved slightly by the time the slit has reached the bottom, consequently vertical lines are shown inclined. There are at least two high-class reflexes on the market fitted with a front-lens shutter working in conjunction with the mirror. For exposures from one-half second to 1-100th these are ideal.

Many a subject is lost in sport or street work by a shutter which takes a long time to wind. A quick wind therefore offers certain advantages to the "rapid" worker. It is also of considerable advantage to have a self-capping blind, which renders the accidental exposure of plates by leaving the plate-holder open when winding the shutter impossible. It is, also, at times very convenient to be able to alter the slit after the shutter has been wound, and some models allow for this.

Perhaps the chief drawback to focal-plane shutters lies in their not giving sufficiently long instantaneous exposures. Most are marked to give 1-10th sec., but this is frequently about 1-20th. There are times when 1-5th or 1-4th would be of considerable value. It is, of course, common knowledge that very few shutters work at anything like the high speeds that are shown on the indicator. However, it is of no

practical importance; one practically never requires less than 1-600th sec., while 1-300th is sufficient for a great deal of high-speed work.



"PORTRAIT STUDY" *John Buell*
First Honorable Mention in THE PHOTOGRAPHIC TIMES Print Competition

After the shutter, perhaps the mirror mechanism is the next most important feature to consider. Here, again, there are two distinct types, spring and thumb raised. In the latter case the mirror is raised by pressing down the release, and when it reaches the top the shutter is set off. Obviously, there is a small interval between these operations, and it is

claimed by some workers that a spring mirror allows less interval between pressing the release and the actual exposure. One advantage of the spring type lies in the fact that it is usually possible to invert the camera over the head, and, looking up into the hood, focus and expose. When working in crowds this is of great advantage at times. If the thumb-raised pattern is preferred, note that it rises perfectly smoothly, and is well balanced. In either case it is a good feature if the mirror rises with a double movement, upwards and backwards, as this allows a lens of shorter focus to be used when desired. In some patterns a split mirror gives the same advantage.

Let us now consider the hood. Although this differs considerably at first sight, it will be found that makers have again followed two distinct patterns; in one the hood is tapered towards the top when seen from the side, and cut to fit closely the eyes and nose. This, by shutting out stray light, gives a very bright picture on the screen, but rather limits the view, as will be shown later; the other type is fairly square in plan, and allows the eyes to be moved about more. The advantage of this lies in the fact that the portions of the picture lying on the sides and corners of the screen can more readily be made out. When using a stand camera one has to move one's head about considerably to get the picture bright at each portion of the screen, and it will be seen that when the eyes are fixed right above the middle of the screen, only the middle portion of the picture will be quite clear, and it is extremely difficult to see the head of a person at the top of the screen, or make out details on

either side. The deeper the hood is the less is this noticed and the brighter the picture, and since the accuracy of focussing depends largely on the brilliancy of the image, and the chief justification of the reflex depends on its ability to render exact focusing easy, it will be seen that a deep hood is most desirable. The only drawback to it is that the deeper the hood the lower must the camera be held in use, but the advantages quite outweigh this consideration.

Other points of importance are the camera extension, which ought to be at least double the focal length of the lens normally used, and rigid when extended fully; the focusing knob, which should be of large diameter (an inch is none too large), and, of course, on the opposite side to the shutter release; the focusing screen, which is much better if it is constructed to work ground side uppermost, thus avoiding troublesome reflections, and should be removable to enable the mirror to be dusted carefully with a soft brush; the hood should also be quickly detachable without the use of any tools, to clean the focusing screen, and it is considered by some an advantage if the hood is reversible, so that the camera can be held sideways for taking people unobserved.

A feature which is to be met with on too few high-class reflexes is the swing front. This is of almost inestimable value in high speed work, as by tilting the front forwards (with the lens looking slightly down) objects in the immediate foreground as well as in the distance can be both brought to a sharp focus without stopping the lens

down. The movement is also of value when taking street scenes from a height.

In conclusion it may be pointed out that the prospective purchaser of a reflex will probably meet with a certain amount of disillusionment when he first sets out to use the instrument. The writer well remembers his expectations of seeing a bright and brilliant picture on the focusing screen, showing the exact limits of the subject with ease; in reality only the center portion of the image is quite plain, and there is some difficulty in making out any detail on the sides of the screen. This is, of course, less noticeable with a deep square hood, and with a screen fitted ground side on top; but it is always less than the user imagines it will be. Another drawback is the difficulty of inserting slides and drawing their shutters while the camera is held with the other hand. In practice it is really necessary to hang the camera round the neck with a sling, leaving both hands free for manipulating the slides and setting the shutter. Some workers may object to this, and also to the considerable weight and size of the camera, the latter consideration being, of course, overcome to a great extent by the folding varieties. However, in spite of these shortcomings the reflex scores heavily; it is indispensable for a large field of work, and it is not likely that it will be superseded by any better form of hand camera. The importance of accurate focusing right up to the moment of exposure cannot be over-estimated, and this is especially the case with the modern large-aperture tele-objectives.—*The Amateur Photographer*.



"COAXING THE LAST SPARK"

R. B. M. Taylor

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

SECURING PICTORIAL NEGATIVES WITH AN OLD RECTILINEAR

BY L. C. BISHOP

IT is interesting to note the growth of one's love and appreciation of pictures. The young child is charmed by the crudely colored print, the cruder and broader it is the better he likes it, because he understands that kind. But as his mind grows he is able to grasp the meaning of a print more delicately colored and each year adds to his discrimination until he is able to enjoy the work of the world's greatest masters.

And so, also, is it true of camera work. Our first crude efforts look beautiful to us, but, as we progress, we set a higher and higher standard for ourselves. Can we not all remember those first prints which looked so good to us just because we managed to get onto a plate as much of a

view or as much of a person as we wanted and got them sharp? But we would not own to making such pictures now. No, indeed! We have gone a long way since these efforts. We are putting more *art* into our work and not trusting so much to luck.

A true interest in any line of work surely tends to create a desire for greater skill and achievement in that work. And, so, the first thing we know, we are wishing we could throw away our old apparatus and purchase one that will allow us to make more pictorial things, such pictures as we have seen in the photographic magazines, or if we have been lucky, in the exhibits of the camera clubs.

Where definition is necessary, as it is with groups and small figures where



"PORTRAIT"

L. C. Bishop

the faces are small, the rectilinear and anastigmat lenses are well suited. But in making larger portraits or outdoor subjects they are the wrong instruments, even if used wide open. A woman's portrait in which the hair is shown in soft masses is much more beautiful than one in which each hair claims attention. Nor do we care to see each pore in a man's skin or the woolly threads in his coat.

To get the pictorial quality, the soft, broad effects which make the portrait so much more as we actually see our subject in life—to get this quality we know we need one of the soft-focus lenses. But they are usually so much larger than the lenses we have been using that they would necessitate the purchase of a larger camera. Then there would also be the problem of a new shutter.



"PORTRAIT"

L. C. Bishop

We have tried using the portrait attachment in the regular way—that is, over the front combination, but found it made the lens too short focused—this spoiling it for portraits. However, there is a way out of these difficulties (as there almost always is if we but search far enough), and the method, through many years of service, has proved to be both practical and reliable.

Let us go back to the portrait attachment mentioned above. As we have noted, using it as one is directed to use it, makes it too short focused, which is disastrous to successful portrait work. But try it another way. Remove the front combination of your regular lens and replace it with the portrait attachment. Upon trying it out you will find that the focus, instead of being shortened has really lengthened and there is also a greater depth of focus, which is the result of dividing up the sharpness by the use of the attachment. Where finer definition is desirable one can stop down and secure the effects obtained by a very high grade anastigmat.

These supplementary lenses can be secured very cheaply from any camera dealer and the larger sizes can be purchased from the supply houses. When ordering one must give the exact diameter of the barrel which is to take the attachment.

The old rectilinear fitted up in this way excels many of the expensive soft-focus lenses and is successful in both portraiture and outdoor work. In my own experience this method worked so well with the usual cameras that I had made to order several attachments

for the larger lenses and in each case they have given perfect satisfaction. The resulting negatives have those qualities we find so necessary to our enjoyment of pictures, qualities the amateur sometimes despairs of getting on account of the limitations of his outfit.

DEVELOPING THE NEGATIVE

In producing work which we desire to have a pictorial quality we must make each process conform to our idea and add its own part to the completed whole. The really great pictures made by photography have been produced only in this way. Although we may have formed an idea of a beautiful picture and used a lens which gives soft edges, we may lose the effect we are striving for by faulty exposure and development. A developer which is excellent for producing soft, grey, atmospheric effects when the subject calls for it, is given below:

Dissolve $1\frac{1}{2}$ ozs. Sulphite of Soda (dry) in 4 ozs. water.

Dissolve $1\frac{1}{2}$ ozs. Carbonate of Soda (dry) in 4 ozs. water.

Mix the two solutions and add: One oz. Pyro solution and 10 drops of a 10% solution of Bromide of Potash.

The Pyro stock solution used is 1-16 with 10 grains of Oxalic Acid used as a preservative.

In making this stock solution first dissolve the oxalic acid in the water before adding the Pyro.

A normally exposed plate will flash up quickly in this developer but should be carried to full density notwithstanding.

But should the subject be one in which the contrasts are very strong, for instance, where there are deep

shadows, which may require ten times the amount of exposure needed for the lights, were the lights alone to be considered, development must be altered. The best way to handle such a subject is, first, to keep the darkroom cool, if possible, say down to 60 degrees. Then use a dilute, restrained developer. Nothing could be better than one which has been used for D.O.P. prints, one made from a standard formula diluted four to six times its bulk with cold water. The negative should be allowed to develop very slowly to the desired density, so long as it remains clean and clear. Should it begin to fog take it out of the developer, fix and intensify. The following formula is most valuable as intensifying can be done immediately after fixing. A good rinsing is all that is necessary.

INTENSIFIER

Mercuric Chloride 1-10 oz.
Water. 8 1-3 ozs.

Add slowly a ten per cent. solution of potassium iodide, until the precipitate first formed is re-dissolved. (About one ounce will be required.)
When clear add:

Sodium Sulphite (dry) 1 oz.
Water. 8 1-3 ozs.

This solution keeps well in a dark colored bottle and can be used repeatedly, until exhausted. It is a good plan to rock the tray in which plates are being either reduced or intensified, both ways, as then the action will be more even and not so liable to streak. After gaining the amount of density desired with the above formula, wash the plate a few minutes and treat it

with a five per cent. solution of sodium sulphite, then wash for a half hour.

Many of our readers are now using highly color-sensitive plates with deep ray filters, but I have found that ample exposure (with proper development and temperature, which is always necessary), overcomes the difficulties of negative making in all but extreme cases. The developers above given are designed to give special effects but in general work no better formula could be given than the following:

EDINOL STOCK SOLUTION

Water. 32 ozs.
Edinol. 1/4 oz.
Hydroquinone. 1/4 oz.
Sodium Sulphite (dry) 13 drams
Potassium Carbonate (dry) .25 drams
Or 3 ozs. 60 grains
Bromide (saturate solution) .20 mms.
Oxalic acid (10% solution) ... 1 dram

WORKING DEVELOPER

Use stock solution 2 ozs. in 8 ozs. water in the winter.

Stock solution 2 ozs. in 12 ozs. water in spring and fall.

Stock solution 2 ozs. in 16 ozs. water in summer.

When a negative is known to have more than a normal exposure start it in a developer composed of

Edinol stock solution 3 ozs.
Water. 12 ozs.
Acetone stock solution 2 ozs.

This acetone stock is made by combining

Acetone Sulphite 1 oz.
Water. 7 ozs.

If the desired amount of detail does not develop freely finish in

Edinol stock solution 2 ozs.
Water. 12 ozs.

No acetone solution required.

A CONVENIENT ADJUSTABLE PLAN BOARD

BY O. G. MASON

THE manufacturers of apparatus for professional photographers have failed to furnish at least one essential item of his equipment. Photography now has so vast a field of application in art, manufactures and education, that a wide awake man, who hopes to keep up with the demands upon his skill, must be prepared to furnish illustrations of almost all visible objects.

When a map, engraving or photograph is brought in for copy and is found to be too large for the plan board of his copying camera, the photographer should not be obliged to "tinker up" some temporary device for doing the work; he should be prepared for conveniently placing in proper position without risk of damage or loss of time, and his apparatus should be so constructed that it may be easily moved about and admit of the plan board being shifted in any direction, up or down, or across the field of his camera lens.

My own experience in all fields of photography, extending over more than half a century of time, has led to the construction of the device shown in the following illustrations.

The apparatus is light, weighing about 20 pounds, although about 4 by 6 feet; is rigid and very easily adjusted. It can be put up or taken apart in less than five minutes, and without the use

of any tools. The several parts are held in position by five loose pins and six thumb screws.

The several illustrations show the construction so plainly that any lengthy description of details is not necessary.

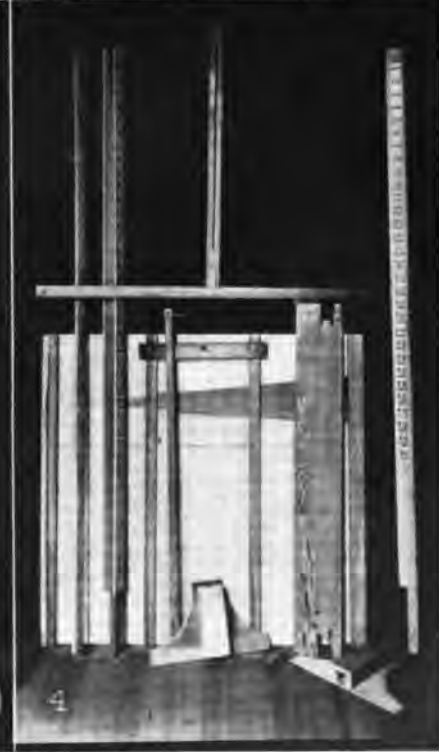
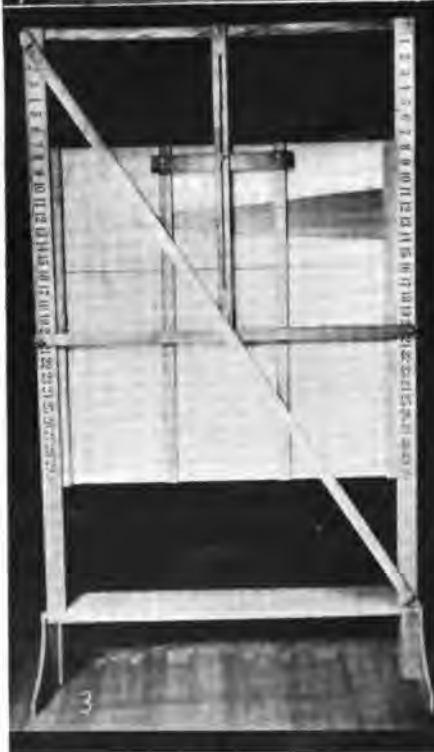
Figure 1 shows the plan board elevated to about central position (the height of the ordinary camera stand) with a large photograph of a clinic at Bellevue Hospital; the photograph being upside down for more convenience in focusing on the ground glass of the camera.

Figure 2, shows a photograph 4 feet high, in a frame, standing on a shelf at the bottom of the easel, a handy position for paintings or heavy objects.

Figure 3, shows the back construction of braces and method of holding the sliding plan board at any chosen elevation.

Figure 4, shows the dissected device; the grooves in the uprights in which the plan board slides, the detachable feet, the shelf, the top bar and the cross bar, with its upright tongue, with slot in which slides the set screw to hold it in position for clamping the plan board in position.

The whole can be tied in a bundle for easy transporting to studio, shop, library, or any point from which the work cannot be taken to the photographer's studio.



A CONVENIENT ADJUSTABLE PLAN BOARD

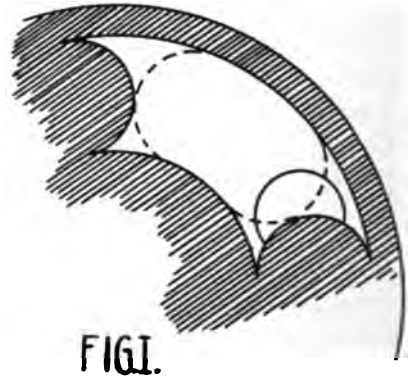
SHUTTER EFFICIENCY

BY WM. H. JOHNSTON

IN estimating the value of a shutter, there is something more than the speed to be taken into consideration. It is comparatively easy to produce a shutter capable of stopping any motion one is likely to find, but there probably would not be enough light admitted to affect even the fastest emulsion. A shutter, therefore, must compromise between speed and illuminating power; and the chief problem in shutter-making is to produce the greatest illumination at a given speed. In some cases, this object seems to have been overlooked.

The first figure, drawn approximately to scale, shows a type of shutter commonly used on box cameras. Although such cameras are not usually the most expensive, nevertheless the low cost is not the excuse for the inefficiency of the shutter. The improvement would not increase the complexity or the expense. In this type a disk of metal rotates in front of the lens. The opening in the disk is shaped as indicated by the dotted curves. If, however, it were of the form shown by the solid outline, a larger portion of the lens, evidently, would be uncovered at the given instant. This advantage would exist in varying degree throughout the time of opening and closing; but the duration of the exposure would not be altered. During the time that this shutter is uncovering the lens, its efficiency is about 43%; that is, it admits 43% as much light

as would pass through the wide-open lens in the same time. The improved model would attain about 57%. In both of these cases, the lens is fully open for a considerable part of the exposure, and this decreases the dis-



crepancy so that the figures for the entire exposure are 67% and 76%. In view of the number of under-exposures that fall to the lot of the snapshot novice, it might be worth while to save this bit of light that is now thrown away.

This shutter is used also in motion picture work, frequently with more than one opening. The edges are straight; and hence, the efficiency is greater than in the hand-camera type. Further improvement could be made, however, by adopting the reverse curves shown in the figure.

A shutter used on folding cameras of a certain make has two blades moving in opposite directions about a common pivot. The second figure shows

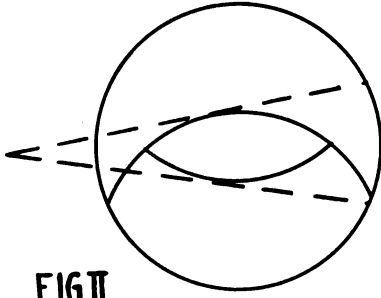


FIG. II

it partly open. Why the blades were curved, the makers probably never stopped to consider. Since the lens is at its maximum aperture for only an instant, the type is about as inefficient as would likely be made without an especial effort. If the blades were cut straight, as indicated by the dotted lines, the shutter would begin to open across the entire width of the lens at the widest part. The construction of a variation of this form was described in the *American Annual* many years ago. It had the same inefficient circular openings.

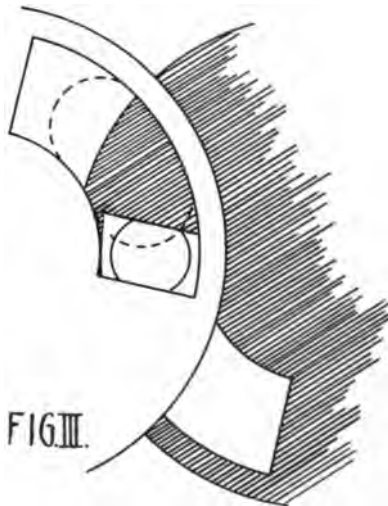


FIG. III.

A form which seems worthy of more extensive use than it has had is pictured in figure III. The disadvantage

of it is size; but it has several features of merit. The two disks, which rotate in opposite directions, may be set in motion without immediately exposing the lens, and thus they may be given time to attain maximum velocity. Likewise, it would not be necessary to stop them suddenly. This would permit the use of greater spring tension than is ordinarily desirable. The time needed to reach full aperture is probably as small as in any shutter; it is the time required by the blade to move over half the diameter of the lens. Although the efficiency during opening is less than 57%, the total illuminating power may be made very great by increasing the length of the slit and hence the duration of maximum aperture. The figure is planned to give the same length of exposure as the rotary shutter first considered. The dotted curve indicates the relative sizes of the slits, thus showing how much greater would be the illumination at a given instant of the exposure. This difference brings the efficiency up to about 87.5% instead of 67% for the same speed of rotation and the same duration of exposure. In some cases, this type could probably be adapted to motion picture work, and the saving of light would be considerable.

It seems to be considered by many that the focal plane shutter is as near perfection as we can hope to come. There is, however, little or no justification for such an opinion. The ability of a shutter to stop motion depends upon the time required for the blade or slit to cross the beam of light coming through the lens. To have the time a minimum, the shutter should work

where the beam is narrowest—that is, at the lens. The focal plane mechanism stops motion, piecemeal, thereby causing the distortion which makes it useless for anything but caricatures if the objects are in rapid motion. From any sensible point of view a picture is a failure that shows an automobile racing on elliptic wheels.

In regard to the efficiency, it is often said of this shutter that the whole lens acts during the entire time of exposure. This is not true, especially at the high speeds. Of course, the screen cannot be in contact with the emulsion. Hence, the edges of the lighted portion are not clearly defined; there is a penumbra which varies in width under different circumstances. The part of the plate being exposed consists of a strip having a hundred per cent. illu-

mination and of two strips in which the light varies from zero to one hundred per cent. The average strength of the light on this area shows the power of the shutter. It decreases if we use a shorter focus, a larger diaphragm, a narrower slit or if we move the blind further from the plate. With equivalent aperture one inch, focus six, slit one-quarter and distance from plate one-eighth, the efficiency would be about 92%. With one of the largest lenses, one and a quarter inches, and the shutter further from the plate, one-quarter, the result is less than 83%. It is hardly to be doubted that these figures can be equalled and the distortion eliminated by a lens shutter if it is permissible to use the bulk and weight that go with the focal plane.

HOW TO WORK WITH A STAND CAMERA

OPINIONS differ as to whether the best training in photography is to be obtained with the hand or the stand camera. Perhaps we shall have said enough if we suggest that the stand camera tends to thoroughness and conscientious work, while one may be superficial with the hand camera. This is not to be interpreted as meaning that all the best photographic work is done with the stand camera. But anyone who will take the trouble to carry a stand camera about, and to open it and set it up, and so on, will be likely to expend a little time and trouble in selecting the best point of view and in getting the correct

exposure. The beginner with the hand camera who is not very systematic perhaps, will merely need to point the instrument in the right direction and press the trigger of the shutter in order to feel that he has taken a photograph, and this not infrequently means exposing without due regard to the conditions of light and subject then obtaining.

For certain classes of work the stand camera is essential. Its movements, such as swing back, and rising front, and its rigid support, enable it to secure subjects which could not be taken by a hand camera pure and simple.

One of the difficulties of the stand camera is that it requires setting up, and if this has to be done in any place where people are about, or likely to be about, the beginner is so nervous in many cases that all sorts of trouble occurs, mostly imported trouble. Many people can open out and set up a camera on their own sitting-room table, but are at a loss where there is nothing on which to lay any portion of the impedimenta. This may be got over quite easily by adopting a regular sequence of operations. As the camera is to be supported on a tripod stand, the obvious thing to do is to open out the tripod and set it up first of all. The three legs will be extended and the head attached. Then the camera may be attached to the stand by its screw and afterwards opened out. There are a few patterns where the design of the baseboard will not allow of this being done, and the baseboard must be unfolded first. With the very popular form of turntable baseboard the tripod legs will be unfolded first and then the camera taken out and the legs attached to the turntable, one at a time.

Having got the camera firmly attached to the legs it may be opened out, remembering the golden rule that force should never be applied. The back should be set truly perpendicular to the baseboard, this position being usually determined by a notch cut in the side of the slot in one of the side stays, into which slot the lock-nut drops. When the part has been erected the lens may be screwed into position and brought exactly opposite the center of the plate if general landscape work is to be done. Where

street scenes are contemplated it is often well to place the lens a little higher so that an excess of foreground is avoided. In landscape work, however, when there are no buildings in the view, it is not necessary to keep the camera absolutely level, and the proportion of the foreground may be adjusted by simply tipping the lens up or down a little as may be required. Where buildings are included, the camera must be kept with its baseboard level if a swing front is used, and if a swing back, then the back must be so adjusted that the ground glass is absolutely plumb. In the former instance it will be seen that if the baseboard is level the ground glass will be plumb, for the one is at right angles to the other. This adjustment is effected by the aid of a spirit level attached to the side of the camera back or by a little plumb indicator, a sort of pendulum bob.

To get the baseboard level is quite a simple matter if the camera is set up on reasonably level ground. One of the tripod legs should be pointing forwards, and the worker should stand between the other two. Levelling may then be done by moving one leg only at a time, and if the spread is considerable to commence with, the point of a leg may be drawn slightly inwards, thus raising that side of the baseboard just a little, until the required level is obtained. After a little experience has been gained, it will be found that the eye becomes so accustomed to the work that only a fine adjustment needs to be made.

The height of the camera is an important matter for two reasons. The lower the camera is the greater the im-

portance given to foreground objects. The higher the camera the more will the lens be looking down on the foreground and middle distance (assuming a level baseboard), and the greater the risk of obtaining a sort of uphill effect. The other reason is that of comfort in working.

There are times when the highest possible viewpoint is desired and no inconvenience or discomfort is considered too great, but as a general rule the camera should be such a height from the ground that it is easy to see the ground glass without either stooping on the one hand or standing on tip-toe on the other. Exceptions are found where special subjects are being photographed. Flowers growing quite near the ground will generally demand a low camera, and then the tripod may be shortened and focusing done by kneeling or sitting down.

When the camera is being used on smooth surfaces, such as the floor of a church, it is a little difficult to prevent slipping of the points. Sometimes the point may be fitted into the join. With marble floors the joints are so fine that this cannot be done. Slipping may then be avoided by tying the three legs together, but this is best done by having a ring with three pieces of string tied to it. The ring occupies a central position, and one piece of string goes to each of the three legs. Another little dodge which works well if the spread of the tripod is not very great is the slipping of a short length of rubber hose-pipe over the end of each tripod joint. The rubber grips the smooth floor and prevents slipping.

Sometimes in very windy weather there is trouble arising from vibration

of the whole apparatus. Especially may this be so, if the camera is a very light one. The old heavy patterns had certain advantages accruing from their weight. But it is always possible to add to the weight of the outfit, and a good plan is to tie a heavy stone to the under side of the tripod screw. Some workers find it better to have a small, strong linen bag which may be filled when required with pebbles or sand and hung under the camera, for it is not always an easy matter to find the required heavy stone. Whether the bag is used or the large stone it should be suspended so that it is quite near the ground, so that if the string should break the stone will not drop on the worker's toes.

So far we have said nothing with reference to the work of focusing, putting the slide into position and exposing, yet these things may be done properly or done in such a way as to lead to all sorts of trouble. Usually, focusing should be done at the open stop first, the stopping down being continued until the required degree of definition is obtained. But in stopping down it must be remembered if the nearest portion of the view is sharply focused at full aperture, a much smaller stop will be needed to get the distance sharp than would be required if good definition is first secured on an object some little way into the picture. In other words stopping down sharpens up the image of objects *further away from* and *nearer to than* the object sharply focused at full aperture. In some cases it is not very material whether the stop is a large one or a small one, but in others the small stop by prolonging exposure gives rise to

difficulty when the subject or portions of it may be likely to move.

Focusing completed, the ground glass must be turned back or removed, as the case may be, and the dark slide inserted. This should be possible without the least risk of moving the camera. That is, the slide should be tight fitting so as to exclude all light, yet it should work with perfect ease, requiring practically no force. The commonest cause of stiffness is damp, this causing a slight swelling of the wood. If the slides are a good fit, the working portions may be lubricated by means of powdered black lead cautiously applied. French chalk is also used, and though not quite so effective as the black lead, is rather cleaner.

During focusing the tripod screw may have been slightly loosened to allow of the camera being turned from side to side so as to get the desired view, or if a turntable is fitted, the locking nut will be loosened for the same reason. Before inserting the dark

slide the screw or nut must be tightened up, or the camera will be slightly swung round.

When the slide is in position it is always well to keep it covered with the focusing cloth, for though everything should be perfectly light tight, it is well not to run unnecessary risks. In drawing out the shutter of the slide, however, take care to draw the right one! We have heard of the wrong slide being drawn, the result being, of course, to hopelessly fog the second plate in the slide. If the slide is fitted with some form of safety catch or indicator, there is not much risk of exposing the same plate twice, but if not a note should be made at once, preferably before the dark slide is removed from the camera, of the number of the plate and the subject, together with any other details as to stop, exposure, and so on. If this is systematically done double exposures should be almost impossible.—

The Amateur Photographer.



"THANKSGIVING"

R. R. Sallows

CONVERTING PAPER PRINTS INTO TRANSPARENCIES

BY "CHEMIST"

THERE are many instances where a good paper print would be valued as a transparency, in which the print could be used for window or glass panel decoration. The main difficulty lies in making the print translucent. Some extraordinary effects may be produced if a print is made from a negative so prepared that the outlines of the figure are stopped out in line form so as to imitate the lead light work of a church window, and the print colored with transparent water colors, because these colors will not run when the translucing material is used. Nearly all of the gaslight papers may be used for this very interesting work, and those who are skillful with the brush may work in a background that will give the effect of an engraved or etched drawing. Portraits and views may be treated and employed in many instances where the colored window decorations are used to-day by being affixed to the window pane. There are several means whereby a paper print may be made translucent, but they will not answer the desired purpose when the time comes to affix them to the window pane. For instance, the employment of wax, paraffin, or castor oil, all of which will make a paper print translucent, cannot be used because of their resisting property to prevent the sticking or affixing of the print. There are other preparations that will answer the purpose perfectly that may be used by anyone who will

exercise a little patience and make up their mind to be successful. These points are mentioned because sufficient time must be given to allow the translucing material to permeate the paper thoroughly and prevent drying in spots, which will occur if sufficient time has not been given for complete penetration in the first place.

It may be mentioned here that the gelatine printing out papers do not answer so well as the developing papers, the defect being due to the markings of the baryta coating, which is employed to give a suitable base for the gelatine emulsion to rest upon. Such papers as aristo platino, however, can be used and give excellent results. This class of printing out paper is a *colodion* emulsion paper and is capable of being made translucent by any of the preparations for translucing given here.

The best papers for this class of photographic work are the thin ones because these give the nearest approach to a transparency after treatment. It will be advisable to prepare enough of the translucing material to cover the bottom of a tray large enough and deep enough to more than cover the print or prints to be treated. This will insure complete permeating of the print, not merely by dipping but by allowing the soaking of the print for half an hour, when it may then be drawn over a glass rod and suspended to dry.

TRANSLUCING MATERIAL NO. 1.

Best pale oak varnish..... 4 ozs.
Spirits of turpentine..... $\frac{1}{2}$ oz.
Gold size..... 2 drams

This mixture will keep well, and should any be left over, it may be preserved in a well-corked bottle for future use.

TRANSLUCING MATERIAL NO. 2.

Balsam of Fir (Canada Balsam) 4 ozs.
Spirits of turpentine..... 1 oz.
Poppy oil..... 2 ozs.

This forms a pale translucing compound. It may be tinted if desired so as to give the print a pale, pink color by adding twenty drops of an alcoholic solution of alkanet root.

TRANSLUCING MATERIAL NO. 3.

Canada Balsam..... 4 ozs.
India rubber cement solution 4 ozs.
Baryole (made from coal tar) 4 ozs.

In all probability two coatings of this preparation may be required. This will, however, depend upon the quality of the paper. If upon drying semi-opaque spots show themselves, the print must be allowed to soak a second time for half an hour. This will overcome the difficulty.

If the prints are colored at all, only water colors of the transparent variety may be used, which must be done previous to being treated with the translucing material. In preparing prints for translucing they must be printed much deeper than for ordinary purposes, because these prints it must be remembered are to be viewed by transmitted light, every part of the print becomes lightened up because of the translucing process. This fact is mentioned so that disappointment may be avoided even in making the first prints. To be successful in the beginning will cause complete satisfac-

tion and bring about an inducement for the production of more prints that will add to the decoration of any apartment. Any photographer could turn this process to account and add to his income by the sale of such prints, or make them to order, while any over-printed samples might be turned to account instead of consigning them to the waste bag. Photographs of yachts, sailing ships and steam vessels could be suitably colored, made into semi-transparent pictures and offered for sale. The sea and sky also could be suitably colored and thus made into a saleable article that would be sure to create a profitable side line in any photographic business, while the amateur would be able to produce photographs of unusual merit and self satisfaction as well as a specialty that would both interest and charm his friends. A vase containing a nosegay of flowers, suitably photographed, and the flowers and ornamental portions of the vase colored, and then made translucent, will produce a very attractive window or panel ornament. The greens and browns of various trees, shrubs and flowers are very suitable in this class of photography for coloring, then when the prints are made translucent render a photograph very close to nature. Photographs treated as here described are made proof against the sulphurizing action of the atmosphere, as well as against damp and other atmospheric influences. This treatment aids consequently in making the print permanent. Of course, the making of the print in the first instance must be thorough, so as to be sure that no hyposulphite of silver is left in the pores of the paper.

CURRENT EVENTS *and* EDITORIAL COMMENT

SOME months ago we printed a short paper by the Managing Editor of this magazine on the mysterious "Lost River" of the White Mountain region in New Hampshire. This article was accompanied by some photographs illustrating the river, but the light conditions were not favorable at the time for making some pictures which the Editor greatly desired to show his readers of this very interesting natural phenomenon. He, therefore, presents with much pleasure in this number of THE TIMES two rather good pictures of the river; one showing it above the place where it suddenly disappears into the bowels of the earth; the other, showing the river at the very place where it enters its cave-like course beneath the surface of the wooded earth. The Editor, and his party, followed the subterranean course of this picturesque and remarkable stream for more than a mile, finally emerging to the surface of the earth again, below its famous "Rainbow" Falls.

The second picture gives a fairly good idea of the character of this passage. It was over and under huge granite boulders, around the sharp edges and along the smooth sides of water polished rocks; up steep declivities, and then down rocky places, no less precipitous. Now, in almost total

darkness, and again into a dimly lighted vaulted chamber, where faint daylight was admitted through a crevice above.

The Rainbow Falls drop into an open basin almost entirely illuminated by the light of heaven; so here we could make a fairly good exterior picture, like the two which illustrate these notes. In other places only flashlight could be used.

☆ ☆ ☆

CHROMIUM INTENSIFICATION STAINS

Many amateurs are in the habit of placing a plate to be washed in a fairly deep dish and of very little larger size than the plate. This arrangement is put on the sink and a stream directed into one corner of the dish. But most of the water runs into the dish and out again at or near the same corner and has little effect on the center of the plate, hence not only chromium, but also a long list of other troubles due to imperfect washing. The efficacy of a washing arrangement is not to be measured by the quantity of water used or wasted. By a rational system one can wash a plate both quickly and effectively and with far less water than is generally used to do the work very imperfectly. One of the most simple and practical methods is to use a large shallow dish in which the plates are

placed. That end of the dish into which the water flows is raised half an inch or so by means of a wooden wedge placed underneath it. By this arrangement the entering water—if properly adjusted—spreads out into a flat stream, which, passing somewhat slowly over the plates, washes them far more effectively than does a big, splashing, quickly-rushing stream. To remove these red chromium stains we may try a hypo bath acidified by potass metabisulphite, or a 5 per cent. solution of metabisulphite, or a solution of sulphite to which either a little sulphuric acid or some metabisulphite has been added. The removal of these stains is usually a long process at best, and, moreover, is not always possible. The better plan clearly is to give more attention to the washing part of the business.

☆ ☆ ☆

Photographers in general may be classified into two groups—those who have some definite aim behind their work, and those who snap-shot more or less indiscriminately at anything that turns up. The latter class soon get tired as the novelty passes away, and take up some other hobby for a while, which in turn is cast aside. For this, if for no other reason, we always advise those who come to us for advice to think out some subject which has for them a special interest, and make that the mainstay of their work. This by no means implies that a worker should rigidly limit himself to his one selected specialty. On the contrary, a complete change of subject is often advisable on several grounds. The best worker will in time get “stale,” or develop a cramping man-

nerism, if he has only one outlook. But after a change of subject he will return to his special line with refreshed mind and eye. We know of a well-known and able exponent of architecture, who now and again branches off into portraiture or landscape; and then returns to his first love with renewed pleasure and advancing success. Not a few workers get the notion that picture-making is the chief, if not the only worthy, line to follow, and, not being endowed with the pictorial sense in any marked degree, soon get discouraged and give up camera work. This over-accentuated importance given to pictorial photography is probably the result of the general trend of our exhibitions, for in many cases the purely technical work is given scant, if any, recognition, and bestowed in the dark corners of the room. Though we are very greatly interested in and attracted by good pictorial work, yet we fully recognize the importance of camera work in many other directions, of which survey and record work is one. It may not be very flattering to the pictorialists to say that perhaps the purely technical work will outlast the pictorial work, but yet it may be true all the same.

☆ ☆ ☆

The early riser at this time of the year can scarcely fail to notice the slight presence of fog or mist that so agreeably softens the various planes of the retreating distance. If now he will be at the trouble to study this phenomenon with a little attention he will soon perceive that a great deal of this very charming effect is due to the different distances being slightly obscured by different quantities of in-

tervening fog or haze. The mist being practically uniformly distributed in the space between ourselves and the different parts of the scene, it follows that the further away an object is, the more it is affected in appearance by the mist. This is so familiar and so easily accounted for on a moment's consideration that apology should be made for referring to the subject were it not the fact that quite a large number of photographers are continually forgetting it. One is frequently meeting with prints with some such title as "An early-morning effect," &c., where there is shown an even distribution of something like fog or mist all over the scene. Whence it would appear that we are invited to believe that the haze, fog, or mist present had precisely the same effect on a tree trunk perhaps ten yards away as it had on a cottage a hundred yards from us, and also on a mountain some miles distant.

☆ ☆ ☆

This misconception or misrepresentation of affairs is partly due to lack of observation of Nature, and partly to the unfortunate use of the word "fog" in a special photographic sense. What the photographer is pleased to call fog is not infrequently the effect of light followed by the chemical action of his developer, resulting in the deposit of a layer of minute particles of silver dust, which may be locally accentuated, or evenly distributed all over the plate. But it is difficult to imagine that it can be unevenly distributed so as to correspond to the appearance of Nature. If the fog veil on the plate be evenly distributed it is no more like Nature's fog than the effect that we see on looking at a

natural scene through a piece of finely ground glass. In a word, Nature's fog and the photographer's dark-room fog have practically nothing to do with each other.

☆ ☆ ☆

ON NAVAL ADVISORY BOARD

The make-up of the Naval Advisory Board of Inventions, the organization of experts, who will contribute their inventive genius to the navy, of which Thomas A. Edison is to be the chairman, has been announced by Josephus Daniels, the Secretary of the Navy.

The board will consist of twenty-three members, including Mr. Edison, who was selected by Mr. Daniels to serve as the presiding officer of the board.

Members of the board were chosen by ballot by eleven of the principal scientific societies of the country whose members deal with those branches of science on which the navy is thought to be dependent for invention.

Among the twenty-two honored we are pleased to find L. H. Baekeland, Yonkers, N. Y., University of Ghent, '82, founder of the Nepera Chemical Company, 1892, and inventor of photographic paper.

☆ ☆ ☆

Most of those who employ the autochrome process of color photography have experienced at some time grievous disappointment at finding an otherwise charming result somewhat spoiled by the presence of a minute green spot. The defect is so small that it may easily escape notice entirely when viewing the transparency in the hand, but when it is projected on a greatly enlarged scale on the lan-

tern screen this green spot is undesirably evident. There has been devised and, in an encouraging measure, carried out, a plan for getting rid of these green spots. First of all he boldly cuts out the spot altogether, right down to the glass, thus leaving a bare glass spot. Next a lantern plate is put film to film with the autochrome, and such an exposure made that while the clear glass spot prints its latent image, yet on development there is little or nothing of the rest of the picture to be seen on the lantern plate. But if a ghostly image of the picture is seen on the lantern plate it may either be removed by a "reducer" or ignored altogether. Development is carried to such a stage that when the silver spot on the lantern plate is fixed, dried, and colored with transparent water color to match the adjacent parts the silver plus color just fills up the hole in the autochrome when the lantern plate is in register with it—film to film, of course. It will easily be seen that this process is one requiring delicacy of handling as well as a nice judgment both in the exposure and development of the lantern plate.

☆ ☆ ☆

There is no such thing as waste material in the world; it is only our ignorance in not knowing how to use the things that lets us call them waste. The coal tar of the gas works was at one time called waste; but now it is proving an inexhaustible mine from which the chemist can extract literally thousands of usable things. It has been said that a fortune awaits the man who can utilize worn-out tooth brushes. We do not know anything about making fortunes; but we do

know one use for the bone handle part of this useful article of the toilet. If the brush part be cut off we can then file down one end of what is left of the handle to something like the end of one's first finger nail. We now have something that may be used in the place of the finger nail when we want to pick up a photographic plate in a solution that stains or otherwise is undesirable for the fingers to touch.

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Some of our readers may not know that if a bromoil print be somewhat liberally pigmented or inked, and then laid face down on a sheet of smooth or very slightly matt clean drawing paper or other similar paper, and the two papers pressed into intimate contact with even pressure, and then gently separated, it will be found that the greater part of the ink has left the bromide print and been transferred to the previously blank sheet of plain paper. In other words, we have a "bromoil transfer." It owes its inception to M. Demachy of Paris who has carried the process to its apparent limits. It may be asked, what is the point of putting pigment on to a bromide print in order to take it off again? The answer is, that hereby we are enabled to employ a very much greater range of choice of papers than is afforded by bromide papers; moreover, the somewhat glossy or greasy looking surface of most smooth bromide papers is greatly disliked by many people of taste. In transferring an ink image from a smooth bromide paper surface to a smooth or finely matt surface uncoated paper there is necessarily some loss of fine definition,

but this loss, or "suppression," as some prefer to term it, is regarded as an advantage by many.

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TEN YEARS' WORK OF A MOUNTAIN
OBSERVATORY.

A brief account of the Mount Wilson Solar Observatory of the Carnegie Institution of Washington, by George Ellery Hale.

This little book clearly records a general survey of the work accomplished and the possibilities of the future of this valuable Institution, and is full of interesting information for the photographer of solar and stellar spectroscopy.

The eleven departments of research of the Carnegie Institution of Washington, of which the Mount Wilson Solar Observatory is one, are located in various places selected because of their suitability for the several purposes in view. Information regarding the work of the Institution may be obtained on application to the Office of Administration, Washington, D. C.

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COURSES IN PHOTOGRAPHY

For the past four years the Department of Photography of The Brooklyn Institute of Arts and Sciences has been conducting courses in photography for the benefit of amateur photographers who feel that they can improve their work by taking a course where personal instruction and demonstrations are given.

There will be two courses, one for the novice or beginner, and another for advanced workers.

The tuition fee is very nominal.

These courses in the past have been

successfully conducted by Mr. William H. Zerbe, who will again assume charge.

Write for a prospectus to The Brooklyn Institute of Arts and Sciences, Academy of Music Bldg., Brooklyn, N. Y., or to William H. Zerbe, 345 Spruce St., Richmond Hill, N. Y.

Mr. William H. Zerbe, in the first of his series of photographic talks and demonstrations, will devote the evening to the amateur and his troubles, giving advice and criticism to such as need it.

Photographers are invited to attend this talk and to bring their photographic troubles with them. Very few amateurs there are who haven't got some perplexing problem which they are unable to solve. Mr. Zerbe will try to solve them for you. Bring prints and films that have not turned out satisfactory to you, and in which you are unable to locate the trouble. In this talk you not only can learn from your own failures, but from those of others.

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One of the healthy and very welcome signs of the times is the steadily extending interest in the study of objects of Nature—using that term in its widest meaning—and more especially is this welcome in the case of the education of the young. We know of no line of study so well calculated to cultivate the faculties of observation and reasoning as the study at first hand of, and the personal contact with, Nature. And when this is combined with the universal and reliable "note-taker," viz., a camera, we get very near to an ideal and entirely delightful, never

staling, line of study of permanent value. May we take this opportunity of urging the advantage of membership of a photographic society? Someone may reply that he is only interested in a special line of work, and that in the local society no one else takes any interest in this subject. But may we remind such a one that there are in existence at the present time quite a considerable number of photographic societies whose members are either experts in or take a special interest in some special line of work.

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We might further add that there are also quite a large number of postal or portfolio clubs which have collections of members' prints in continual circulation for the purpose of gathering criticism, help, or suggestion from the members at large. It has been our pleasant duty from time to time to act as critic and general adviser to several of these postal clubs, and we can testify to the steady progress in the quality of the work of the members, and that in the notebook accompanying the folio it is by no means uncommon to find expressions of appreciation for the help that members have derived from their membership. Some individual may plead that he is not sufficiently advanced to join a society of experts. A few societies demand a certain level of excellence before admission, but in the majority of cases there are no such limitations, and the beginners are always welcomed. The "old hands" are quite ready to place their extended experience at the disposal of all who ask for guidance.

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There is yet another danger to which

attention may here be called—that of regarding the technicalities of the making of the picture as the be-all and end-all of the matter. We may admire copper-plate writing, faultless grammar, and elegant diction, but if the writer has nothing of interest or importance to say, *cui bono*? Technique is merely a means to, but not an end in itself, as some seem to think. In one branch of photography at least there is great danger of making this mistake. We refer to photomicrography. A friend produces from his pocket a print, and with an air of triumph says, "Three thousand diameters." "What is it?" we ask. "Section of a fly's eye." "What are those dark lines?" "Oh, I don't know anything about the thing itself, but look at the definition." Definition or resolution and magnification are, of course, highly desirable qualities, and enable us to state visible facts. But if we have no definite ideas as to the facts to be stated then it becomes chiefly a matter of optical gymnastics. The photomicrographer who aims at enriching the general stock of knowledge should strive to make himself acquainted with what others have already done, so as to be in a position to observe any previously unrecorded appearances.

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Mr. A. E. Biermann, who has worked the autochrome process from its introduction, has given the fruits of his valuable experience. He makes certain departures from the usual routine as set forth in the printed instructions, as circumstances may indicate. His standard of exposure in bright sunshine is one second at *f*/8. Under ordinary circumstances with an ordi-

nary plate this would be equivalent, of course, to two seconds with $f/11$, and four seconds with $f/16$. But in his procedure he multiplies the $f/8$ exposure not by 2, but by $2\frac{1}{2}$, when changing from $f/8$ to $f/11$, and again multiplying this by $2\frac{1}{2}$ for $f/16$, thus getting $6\frac{1}{4}$ in place of the usual 4. His developer is Quinomet, but here, again, instead of adhering to the usual one-in-four solution he may dilute it down to one in twelve, suitably extending the time. Here, again, his method is personal. He notes the time taken for the image to appear, squares this number, and then multiplies this by four.

For instance, suppose the "time of appearance" were 5 seconds, squaring this we get 25, and multiplying this by 4 we get 100, which is the indicated total time of development. It is particularly interesting to hear of these various ways of working this alluring process and getting excellent results, as it shows how flexible it is and that there is room for individuality.

★ ★ ★

A notable advance in connection with Rontgenography, as it is sometimes called, is in the direction of differentiating and sorting the complex mixture of radiations which are given out by an excited vacuum or Crookes tube. In the case of ordinary visible light this is usually done by passing the mixture of variously colored lights that we call white through different ray filters or colored transparent media, which permit certain rays to pass while others are filtered out or absorbed. But in the case of the vacuum tube emanations the filter—if we may so call it—is a sheet of chemi-

cally pure metal, such as copper, for example. This permits certain emanations to pass through, while others are—shall we say—absorbed and in turn give rise to secondary emanations or radiations, so that one might roughly compare it to something like selective reflection, as these secondary emanations leave the metal plate in a direction different to that in which they receive the exciting radiations. The practical point of all this is that while the tube gives off a mixture of rays, this metal filter gives off a selected group which is constant in quality and quantity. Hitherto radiographers have been greatly handicapped by the inconstancy and uncertainty of the tube rays, so that this recent advance is regarded by them as of immense importance both in theory and practice.

★ ★ ★

THE BROOKLYN INSTITUTE OF ARTS AND SCIENCES

Department of Photography, Academy of Music Building. Proposed Events of the Department of Photography, Season of 1915 and 1916.

Loan Exhibition of Prints

October 4	January 24
November 1	February 21
November 29	March 20
December 27	April 17
April 29, 26th Annual Exhibition.	

Demonstrations

October 15	January 7
November 12	February 4
December 10	March 3
March 31	

Lectures on Photography

October 29	February 18
November 26	March 17
January 21	April 21

Classes

Instruction in Art Photography—October 7 to April 20, First and Third Thursday Evenings and Four Saturday Afternoons at Studio Work.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

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ROCHESTER, N. Y., *The Kodak City.*

HOLIDAY HINTS.

Time and Christmas tide wait for no man and the sooner we can get our holiday plans under way, the better for all concerned. Half the fun of Christmas is preparing the gifts—at least it is for us Kodakers with such a wealth of material with which to work. Of course, there must be a few pretentious gifts, but for a good part of our Christmas list, presents having Kodak pictures as a basis are just the thing.

First and foremost is the Kodak album filled with pictures of particular interest to the one we wish to remember. This makes an ideal gift, one that is appreciated much at the outset and even more in the years that follow. What better gift than such an album for members of the family or old friends whom business has called far away from the old town? For your brother out West, for example. Wouldn't he appreciate an album containing pictures of some of the old town land marks as well as impromptu portraits of the family and snap-shots of scenes and happenings that were once as familiar to him as they now are to you? And for the old friend back East. Wouldn't he just revel in an album of this kind—pictures showing changes that have taken place both in the town and the people he used to know so well? This is the kind of gift that touches the heart and sentiment can hardly be out of place on Christmas day.

And then there are the calendars. Your Kodak dealer has a complete line of 1916 Souvenir Calendars that a print, carefully selected from your collection, will complete. These calendars are sure to please you and are equally sure to please your friends. They are "craftsman" in design and are even more effective than the calendar lines of previous years. The Souvenir Calen-

dars are equipped with an easel back and are made up in olive marble and brown marble, the former being especially suitable for black and white and the latter for sepia toned prints. They are manufactured for either horizontal or vertical prints in any of the standard amateur sizes.

A novel feature of the calendar line is the Year Book Calendar. The Year Book Calendar gives plenty of oppor-



Souvenir Calendar.

tunity for original work. It consists of twelve mounts on each of which is a calendar for the current month. At the top of each mount, space has been reserved for a print and at the left of each calendar pad, additional space for an appropriate little word story suggested by the picture. The price of the Year Book Calendar is fifty cents.

You will find that Velox Transparent Water Color Stamps fit in very nicely with your Christmas gift plans. Through the medium of these stamps, the colors that your eye saw as you clicked the

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Eastman Kodak Company

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shutter may be easily and cleverly reproduced on the print. The colors are self blending and the veriest novice will experience little difficulty in securing excellent results from the start. A complete outfit of Velox Transparent Water Color Stamps, including book, three brushes, and palette costs seventy-five cents while the booklet of stamps alone costs twenty-five.

THANKSGIVING AND THE KODAK PORTRAIT ATTACHMENT.



Above all things, do not neglect to supply yourself with a Kodak Portrait Attachment in readiness for the Thanksgiving home-coming. With the family gathered together from far and near, comes a rare chance for pictures of "the sisters and the cousins and the aunts"—an opportunity that may never again offer itself. And you can only make the most of this opportunity with the Kodak and the Kodak Portrait Attachment.

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Supposing you developed some particularly valued films and obtained poor results due to the use of impure chemicals. Where would you place the blame? On the chemicals, of course, you say. They caused the trouble, to be sure, but the fundamental blame doesn't lie with the chemicals at all—it lies with *you*. It was *your* fault that inferior chemicals ever got past the threshold of your printing room. Eastman Tested Chemicals are manufactured with the sole idea of supplying the amateur with chemical preparations of which he can be absolutely sure. The amateur who uses Eastman Tested Chemicals doesn't think that they are all right, he *knows* they are. He knows that they have qualified under the highest kind of a chemical standard, for the chemical requirements of the Eastman Kodak Company must, of necessity, be extremely exacting. He *knows* and he can't for the life of him see any use in taking chances.

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KODAK MAGNESIUM RIBBON HOLDER

The illustration above shows you how small and compact the Kodak Magnesium Ribbon Holder is, actual use will convince you of its efficiency. Comprising at once, a magazine for storing the magnesium ribbon and a convenient holder for burning it, the Kodak Magnesium Ribbon Holder provides the handiest kind of a printing light.

And its obvious convenience is not the only thing to recommend it. The ribbon burns with an intense white light of high actinic quality and is, therefore, a fast printing light over which the user has complete control. By the movement of the thumb over a revolving wooden disc at the top of the holder, the ribbon is pushed forward to the length desired. This is an extremely valuable feature, particularly in the making of duplicate prints. Suppose an inch of ribbon gives the right exposure for the first print. Then the amateur has only to measure out an inch of ribbon for each succeeding exposure with the knowledge that the prints will be absolutely uniform. There is no need of a watch or a timer when the Kodak Magnesium Ribbon Holder provides the illumination.

The best method for igniting the ribbon is by means of a small alcohol lamp specially constructed for this purpose. The magnesium flame is automatically extinguished when it reaches the small aperture through which the ribbon is projected. This makes it possible to snuff out the light at will by

simply giving the wooden disc a reverse twist or to maintain it indefinitely by continuing to push the ribbon forward.

The light furnished by the Kodak Magnesium Ribbon Holder is so intensely white that it may be successfully used for flash light work—even portraiture although the prolonged exposures necessary are a little hard on the subject. It is excellently adapted, however, for the photographing of dark interiors and subjects of like nature.

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THE PHOTOGRAPHIC TIMES

PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed December 30th, 1915, so as to be announced in the February Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

Second Prize, \$5.00

Third Prize, \$3.00

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CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. The subject for this competition is "Flashlights," indoors or out.

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received by us not later than December 30th.



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AUGUST 24, 1912.

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at.....NEW YORK CITY.....for October 1, 1915.....

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(Signed) THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,

CLARENCE L. USHER *Business Manager.*

Sworn to and subscribed before me this 20th day of September, 1915.

Catherine C. Bleir, Notary Public, New York County.

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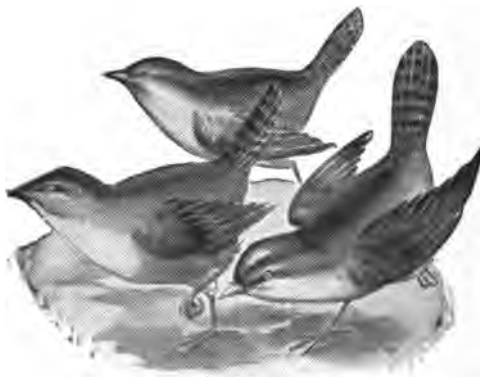
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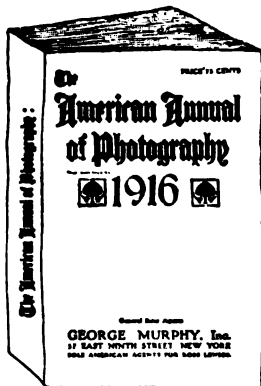
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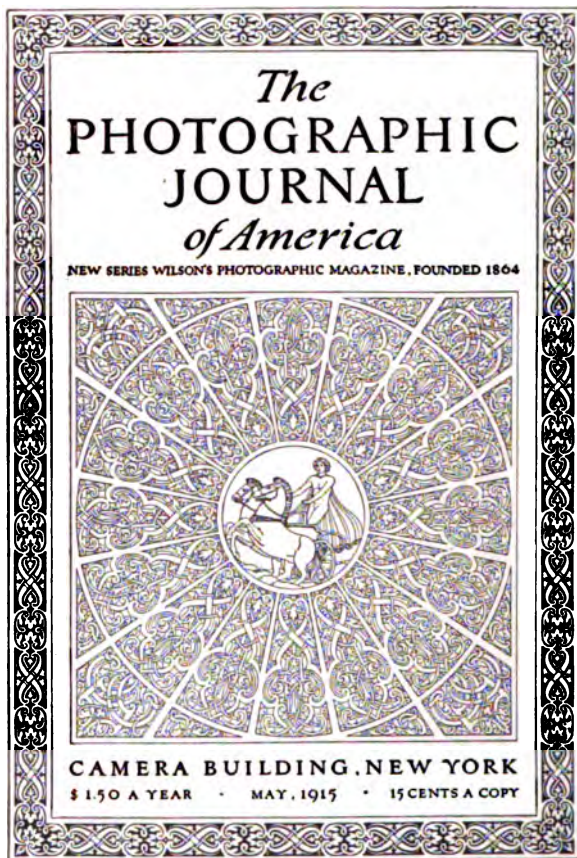
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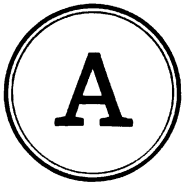
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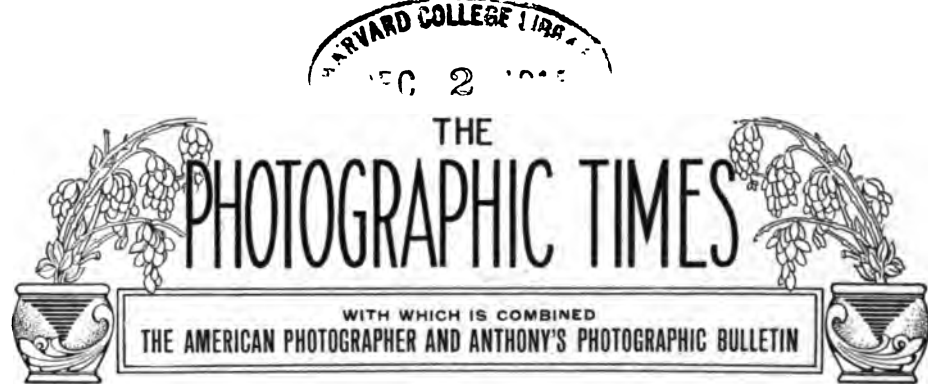
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THE PATH ACROSS THE FIELDS

Wm. Ludlam, Jr.



VOLUME XLVII

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WINTER AND THE HAND CAMERA

BY WM. LUDLAM, JR.

THE first and most necessary requirement for successful winter photography is snow. Unfortunately, for me, I live in a portion of the state where real snow is beginning to be a curiosity and, instead of taking a milk-stick to measure the average snowfall, we now use a micrometer. In my younger days, I remember, we had snow on the ground continuously from early November until late March; but now it is "rain, rain, come again," and then some. Our Thanksgiving turkey was always served in blizzard weather, and Saint Patrick never thought of parading without hip-boots. To picture winter landscapes, when the genuine article only exists in memory is, to say the least, trying; but once in a great while the North Wind blows long enough to favor us with a sample of snow and then, before Old Sol can undo the work of the wind, I make a hasty grab for my camera and set forth, as my Hibernian friend has it, "to photo phalling phlakes."

The principal theme for discourse, on which all experts in winter photog-

raphy agree, is exposure, and they are right, exposure is the "meat" of the proposition; exposure both negatively and positively. By "negatively," I refer to the part that the camera takes in the transaction; by "positively," I mean the effect that the "exposure" has on the individual, if not properly clothed to weather the winter blasts. I know, from experience, that a good "negative" is often purchased at the price of a bad, "positive" cold, the one developing along with the other, and the negative is, by far, the easiest of the two to "fix."

Care in "exposure," then, is the essential thing to look out for in winter landscape photography. Give full-time for the shadows, let the highlights take care of themselves, (the poor things have been taking care of themselves for such a long time that they are well able to do so,) take time to bundle up warmly and that possible "positive" cold will not materialize.

Plates should be double-coated and orthochromatic in order to successfully capture the delicate detail of



A GRAY DAY

Wm. Ludlam, Jr.

snow lights and shadows; the body should also be double-coated to make it anti-rheumatic and cold proof.

A ray-filter is also necessary to realize in the full the advantages of the orthochromatic plate. Most snow pictures are "chalk and charcoal" owing to the general misunderstanding of the importance of this fact.

Development of a winter cold requires no special attention, it will take care of itself by the factorial system, just so many days to each stage of the complaint, its violence only modified by proper care and dosing. Development of a winter negative does require special attention and must be stopped at just the right moment, before the high-lights begin to choke up, to insure good results. A soft working developer, with plenty of water, to give time for the shadow detail to build up, is what is required, preferably

pyro. Snow, although white, is still alive with delicate little gradations of shadowy detail, and it is the preservation of this quality in the negative that really makes the picture. A print representing a bank of pure, white snow is untrue to nature; a dainty touch of high-light, here and there, on a field of darker tone is far more effective.

The correct paper for printing depends entirely on the degree of contrast and density in the negative. I prefer a strong negative used in combination with a soft grade of paper of fairly rough surface; though some writers advise a normal grade of paper to retain brilliancy. This is largely a matter of personal taste and depends upon the individual. In my experience sparkling snow in the print means black shadows, and to overcome this I sacrifice some of the brilliancy in the



ALONG THE WALK

Wm. Ludlam, Jr.

high-lights. To my mind the resulting prints are truer to nature by giving, in the full, the effect of soft snow texture. If the prints seem too dark in tone they can be lightened up wonderfully by double-mounting on gray cards with a narrow line of black around the edge of the print. Effective high-lights may be added by deft touches with a marking pencil on the reverse side of the negative.

To lay all joking aside, both "negatively" and "positively," there is nothing more exhilarating than a tramp through the snow on a clear, crisp winter day. Everything radiates life; the air is full of it, the sunshine sparkles with it, and even the shadows respond to its vitality. It is then, if ever, that the joy of living strikes deep in its fullness. Step out with a full stride; expand the chest and breathe in the magic of the winter atmosphere; swing along the beaten

path; through unplowed drifts; across buried fields; through the frosted tangle of the forest and live, live as you have never lived before. Who could not, in this atmosphere of "frozen dainties," appreciate the "picture possibilities" of winter? Perfect bodily enjoyment breeds a contented mind and, as the mind sees, the hand executes. It is only too true that a "turned liver" makes everything appear "as through a glass darkly;" but no self-respecting liver can withstand the spell of "winter's wiles" and must, perforce, stand upright in its proper place.

If you happily live where winter means real snow, and plenty of it, don't stand watching it through tightly closed windows; but load up your camera, bundle up your body and get out in the open. Plough through the drifts and—live.



MORNING SHADOWS

Wm. Ludlam, Jr.



Figure V

PHOTOGRAPHY AT NIGHT

BY C. H. CLAUDY

LIKE many other titles for photographic stories, this is more or less of a misnomer. For flash-lights indoors after sundown are as truly examples of the practice of photography at night as are those exposures made outdoors with what illumination nature or the city government has supplied. Nevertheless, by "night photography" most amateurs understand the making of pictures of lighted buildings, city streets, etc., after dark, so the title may express its meaning in spite of its looseness.

The qualifications which fit a photographer for night work are mental rather than instrumental—almost any equipment may be used for this curious department of photographic work. But unless the experimenter is able to "see" a night effect, he is almost certain to be doomed to disappointment.

Hence it is that many experiment, but few make night work a hobby. Those few who do, manage to produce some exquisite pictures, well worth the time and trouble which is required to obtain them.

Night photography imposes some limitations, chief of which is that of lengthy exposure, so that practically all night work, save that accomplished by flash, is upon still life. It is paradoxical that street scenes may be made at night when full of people, and even more so that the people will have disappeared from the result, but that is a detail.

Lenses and plates or films—the former more than the latter—interpose their own limitations to the efforts of the night photographer. The more complicated the lens structure, and the wider its angle, as a general



Figure 1

rule, the more apt is the resulting picture made at night to show flare, ghost, or degradation due to internal reflections. The ideal lens for night work, as for day, would be a simple, single glass. It is, however, rare that it may be employed on account of the necessity of great stopping down to eliminate distortion, and the consequence of too great a lengthening of an already long exposure.

Plates are very apt to produce curious halation effects upon subjects which have brilliant spots of light such as arc lamps, within their composition—films are less likely to produce these effects on account of their thinness. On the other hand, the round halo, and sometimes accompanying reversal, which frequently mark the presence of an arc light, have become conventional

representations of brilliancy, and are not always objectionable. See Figure One, a beautiful example of photography at night by Mr. H. J. Cowling, who has here exemplified in practice about every principle which the photographic worker at night should observe. Further reference will be made to this example.

The photographic worker at night must make up his mind at once that his effects are to be those of contrast, of brilliancy, of mass against mass, rather than of fine detail. He must also make up his mind to patience, and to some disappointments. A photograph such as that shown in Figure Two, is of course, a true night picture, yet it is not one which gives any great satisfaction to the beholder. The outlines of the building are plain

enough and we gather that there was water between camera and building. But the exposure was too short, the development too sudden, the printing too harsh, to bring out any corroborative detail. And while mass against mass, and contrast of light against shade are the essentials of a night picture, *some* detail in shadows, *some* suggestion of perspective, is an absolute essential if reality is to be simulated at all. We do not get this feeling of reality in looking at Figure Two—it isn't there. Standing on the bank of that lake, pool or river, and looking at that brilliantly lighted building, our eyes would see some details of foreground, and our brain register some feeling of perspective. And when a photograph fails to convey to the mind what the eyes would see in the same place at the same time, it is not a good photograph.

Mr. Cowling's beautiful effort, on the contrary, *looks* like a night scene.

It strikes our eyes as perfectly natural. We have that detail underfoot and close at hand—dim, obscured, soft almost to fuzziness, to be sure, but still there—which puts us at once in a public park at night and not marooned twixt earth and sky in the middle of a sea of darkness, without either perspective or standpoint.

The man who made Figure Two may be inclined to disagree with this and say that because Mr. Cowling had snow, therefore he should get no credit for detail in the foreground and a retreating perspective due to that detail. Let him, then, examine Figure Three, in which everything has been sacrificed to brilliancy. Here, too, is snow, and a suggestion of detail in the foreground, but badly handled. True, the picture will please, compared to Figure Two, but when placed beside Figure One, there is no comparison. With similar opportunities, the two photographers who made One and



Figure II

Three show the difference between the right and wrong way.

It may interest those who propose to attempt to duplicate Figure One at the first opportunity that it was made with an exposure of *eighty* minutes, lens at F 11. Figure Three was given eleven minutes at F 6.8.

I do not know the exposure of Figure Two, but I should guess about five minutes at F 8.—many times too little.



Figure IV

Even with a brilliant light close at hand, a long exposure is indicated. In Figure Four, for instance, of the Christmas Tree for the public, there is too little exposure. True, the lights on the tree are brilliant enough—too brilliant. But there is a lack of that detail which in the scene itself must have been plainly visible in that light. Hence the result is unnatural.

It can, then, be confidently stated as a principle of night photography out of doors, that lengthy exposure is a necessity, and that the exposure should be calculated, not upon the source of the light and its brilliancy but upon the



Figure VI

reflecting power of the foreground and the time it will require to register on the plate. Then development must be so accomplished that the maximum of softness and delicacy be attained. For even with that maximum the negative is going to show violent contrasts, and too much contrast at night produces just that feeling of unreality the competent photographer will endeavor to avoid.

It is occasionally possible to get a combination exposure of daylight and night-light. It is not always desirable. But in such a case as Figure Five, the result justifies the means. Here a short exposure has been given just before sundown. The patient photog-



Figure III

rapher leaving his camera untouched, waits for night and the city illumination, after which he gives an exposure of two or three minutes to get the tiny dots of light for which he has waited. The result is a very lifelike little picture of the city across the river, and here, be it noted, the black foreground is not at all unnatural, since in nature that absolutely unlighted foreground would actually appear dark to blackness.

Unquestionably the greatest factor of pure beauty in any example of night photography is the quality of mystery. Without attempting to go into the realm of psychology, it is nevertheless a fact that all our feeling for the beauty of night, and of night scenes, is predicated upon this factor of the mysterious, the unknown, the veiled. Hence the maker of any night picture

will do well to chose a viewpoint and a subject which has this element of mystery about it, rather than one which ends in utter frankness and self-explanation. Again reference is made to Figure One, where all is plainly visible in the foreground, but where the lights in the distance attract the eye, which wanders back under the trees towards something as yet not seen—something—what? There you are! The mystery of the night—and the picture is attractive. Much less pictorial, even if as good photographically, would Figure Three be, because its feeling of mystery is so much less pronounced.

It is probably from an association with the mysterious that lightning photographs make such a vivid appeal to the beholder. Figure Six is a good

example. Such pictures are to be made by any one who can get a camera and a thunderstorm at the same time, merely by holding the camera in the hands, pointing at the sky, having the shutter open and waiting for the flash. Of course, such brilliant examples as Figure Six do not always reward the experimenter, but it will be a poor thunderstorm indeed which does not give some interesting results.

The photographer who ventures forth at night with his camera, then, should remember that a long exposure is usually better than a short one—that a simple lens and a film will produce generally better results than one of complex structure and an unbacked plate,—that the quality of mystery, secured by not having the greatest illumination visible in large size at the end of the vista, is the most potent lure of the work, and that while contrast and vividness make up most night pic-

tures, a certain amount of shadow detail is an absolute necessity if the picture is to be at all natural.

Making a picture according to these suggestions will keep almost any beginner busy for a while. But when such work palls, there is still lightning; yes, and celestial photography, making star circle exposures, long focus lens pictures of the moon and subsequent enlargements—in fact a great many ramifications of night photography, all attractive and all “different.” Agreed, that in its tantalizingness, it is something like following a will-o’-the-wisp, yet, like that interesting pursuit, there is always the promised pot of gold if you locate his home, and if you “locate” a first class night picture, there is, if not gold, at least more satisfaction than could easily be packed in any pot! You have only to try, and to succeed, to agree.

A FRIENDLY CHAT WITH AMATEURS

BY AN OLD AMATEUR

THERE has recently been much unnecessary discussion concerning the relation of photography to art. Some have tried to lower it to the position of mere handicraft, but these are generally self-styled artists who cannot rise even to a medium place in their own profession. But whether photography be an art or only a trade, one thing is certain, to produce a beautiful picture, one full of effect and feeling, demands a considerable degree of artistic taste on the part of the operator. To direct the camera

to any object or scene in nature and expect, from accuracy of focusing, or even from proper timing and after-development, a pleasing or satisfactory picture, is simply absurd. Good taste is synonymous with good judgment, and it is in reality the judgment which exercises the power of selection from nature of that which is beautiful and chaste.

The operator should have constantly in view the effect to be produced, not by any one portion of the picture he sees upon the ground glass of his ca-



"OPINIONS"

R. R. Sallows

mera, but from the general effect of the whole. He should strive to have the different parts of the picture harmonize, and not let any object be too obtrusive, either from its unsightliness or prominence, even though it be pleasing in itself. Such objects attract the eye the first and hurt the general effect.

The operator should remember that a foreground is as necessary to the picture as a middle-ground or distance; but he should likewise remember not to overload it with too many objects, nor yet to make it so bare as to destroy the balance of the picture. It may sometimes happen that a scene in every respect beautiful, is marred by some unsightly object in the foreground; if it is possible by changing slightly the point of view to escape the annoyance, do so; but if this cannot be done, seek either to remove the object directly or hide it by some device; as, for instance, cover it with branches and leaves or seat figures upon it if possible. Indeed, it is often necessary to place figures in the foreground, but here the exercise of the judgment is especially demanded and their treatment more difficult than inanimate objects which may be disposed of at will. It is generally best to have the figures in attitudes representing some action or work; it gives animation to the scene. Sometimes, however, repose will heighten the beauty of the view. Above all, remember never to let the figures stare at the camera. Let them always have the appearance of forming an essential part of the scene represented. Try to get the picture as sharp as possible.

In focussing, if you find it impossi-

ble to get both the distance and the foreground sharp even by the use of the swing-back, then divide the focus, giving the preference always to the foreground and its immediate vicinity. A want of definition on the foreground is always more noticeable than in the distance. Let it be remembered that this is the case with our own vision, and a photographic picture can never err artistically if it translates the scene as it appears to our eyes.

Attention to detail is absolutely necessary; nothing effective can be done carelessly. It is better to take a single picture, and to make several exposures upon it, than to flash off a great number of worthless, unartistic, under-timed, and flat negatives, not worth the pains of development. It is a great satisfaction on development to watch a well-timed and nicely arranged picture emerge step by step from beneath the developer.

Carelessness or over-excitement in the exposure of the plates is the principal cause why many beginners forsake photography in discouragement at their failures, when, with the exercise of a little care and patience at first, they might avoid them and soon reach that stage when the art becomes a healthful pursuit and a delightful recreation.

The main points demanded by a good photographic landscape are perfection of definition, brilliancy and softness combined with vigor. There are certain conditions upon which success in these particulars is alone obtainable:

First. Proper Illumination.—Always choose a clear, quiet day for outdoor work. Avoid making an expo-



GOING HOME

Jared Gardner

sure when the foliage is moved even by a gentle breeze. A movement is always more perceptible with a short exposure than when more time is given to the negative. A bright, sunny day is best for large views, because in them more contrast in light and shade is demanded. Hence, in such views never expose with the sun in front or behind the camera; let it light up the foliage from one side or the other, so that the shadows thus produced may break it up and nicely gradate it. A flat picture is always unsatisfactory because it is unartistic. In stereoscopic views a modification of the above principles is required. They require great softness and perfection of detail with brilliancy, and above all great sharpness and clearness; the contrasts need not be as decided as in single views. These points are necessary because the stereoscope enlarges the pictures, and any want of detail or great contrast would be more noticeable.

Second. Direction of Light.—The light falling upon the view should be so distributed as not to give an undue portion of light or shade. The subject should not be equally lighted all over, nor should it be all in shadow. There are, however, some exceptions to this rule, certain objects are taken best in a soft, subdued light when the sun is not shining brightly, or at all, as deep ravines or gorges with overhanging cliffs, or broad, flat surfaces of water with the sun in front. The reflection upon such surfaces would, in the picture, cause only a dead-white impression, without any of the characteristic features of water, resembling mere banks of snow.

Clouds are not easy things to paint, neither are they easy things to photograph. Yet I think the photographer has so far even exceeded the best painters in the production of cloud scenery. Look, for instance, at a well-developed cumulus. Where have you seen it accurately represented by the brush? Who ever really painted those delicate, long, filmy clouds known as mares' tails, with gentle curves floating upon the bosom of the air. At least, no artist has ever given them with the accuracy and delicacy of gradations of the photographs of some of our masters in landscape photography. The sky with clouds is a material part of the composition of a landscape. It is the keynote interpreting the whole scene. The photographer should never rest satisfied with smutty dull skies, trusting to his steady hand to block them out of the negative with the opaque. Such devices are bad, and the picture is generally spoiled to any one of artistic feeling.

There are better plans by which clouds may be secured in the landscape. Yes, even the "lazy pacing clouds" are too quick for the rest of the landscape. If the plate be exposed with the hope of securing the sky and the landscape at the same time, certain devices must be made use of. The sky requires only about one-third the time of the foliage; and if the proper time is given to the latter, the former will be over-done and too dense, and without gradations of half tones.

It is for this reason that most operators employ the flap in front hinged from the top of the lens, which, by shading the sky, prevents it from being over-timed. Care must be taken to



THE HIRED MAN

Jared Gardner

keep the flap in gentle motion, otherwise a rigid, distinct line will be formed on the plate. It is also necessary to gauge the distance through which it moves by the extent of sky surface required in the picture.

The artistic quality of the picture also depends upon the proper rendering of the foliage. Nothing can be so unsightly in a picture as a dense mass of foliage, without any detail or half tones. It offends the artistic eye, and will ruin a view, no matter how beautifully rendered may be the sky or the rest of the picture. Indeed, there are certain devices by which badly taken skies may be remedied, but there is no cure for ill-defined and flat foliage. To secure good results with foliage, a perfect calmness of the atmosphere is demanded; the wind must be still. A scene such as Keats describes would make a beautiful photograph:

"No stir of the air was there;
Not so much life as on a summer's day
Robs not one light seed from the feather'd
grass,
But where the dead leaf fell there did it
rest."

The slightest motion of foliage in the foreground produces a blurred and indistinct mass in the front of the picture, which detracts from it, if it does not totally mar, the whole picture. Always wait for the calm which follows the gust of wind.

Patience is one of the virtues which the photographer should have in pre-eminence; and patience shall have her perfect work. Its reward shall be the beautiful negative which shall result from the favorable combination of circumstances. Always be ready to seize the favorable moment. Have everything in readiness to make the

exposure, and cease the instant the wind gives his gentlest premonition that he intends again to rollick with the sportive leaves.

The presence of the sun is essential in securing good results with foliage; it should never be taken when entirely in shadow. A landscape—especially one of any extent—is always flat and low in tone when not illuminated by the sun. There must be relief and contrast, which can only be secured by aid of the sunlight—not necessarily in its full strength, but at least in sufficient quantity to give the relief, and to break up the lights and shades. Often when the sun is behind a light mass of clouds the best results are effected, and the time of exposure lessened. The photographer should not forget that shadow, as well as light, is demanded by an artistic view. Do not try to get all the light possible upon the scene by working with the sun behind the camera. Some subjects demand the admission of the light from the side. It is not enough to secure a just balance for the sky and ground in a picture.

The proper rendering of still water in the photograph demands the greatest attention. Nothing is easier than to give it the appearance of a flat, level bed of chalk; but to get the real look of water, with beautiful reflections, showing it to be mobile, transparent fluid, requires special management of the light. Too great a flood of light upon the surface often results in giving such density that all reflection is destroyed, especially if the sun is in front of you. A light, cloudy day will generally be found to give the best results.

When it is desired to photograph water in motion, as in a waterfall, or in the gentle rippling of the stream, resources should always be had to the instantaneous drop and to rapid plates. Otherwise the rendering of motion will be destroyed, and only the appearance of wool result.

Third. Length of Exposure.—The estimation of the length of time a plate should be exposed seems to demand a sort of intuition on the part of the operator. He must be able to judge exactly; otherwise the negative will be either under-timed or over-exposed. It demands, first of all, a thorough acquaintance with the apparatus, which can best be learned by trial. Some lenses are more rapid in working than others, and hence require less time to produce the same result. It is best, on general principles, for the beginner to confine himself to the use of a plate of known rapidity, and not to jump from one brand to another. Certain data will thus be obtained, which will be of service to him in judging of proper timing.

It is not always possible, or even desirable, to use the same lens. Sometimes a long-focus lens is demanded, for very distant views; sometimes a short focus is needed, where the view is limited in extent. The length of focus may be doubled by taking out the back combination, if the lens is a double one. When this is done, longer time should, of course, be given to the plate.

On general principles, it is best to use a lens of moderate focal length, rather inclining to long focus than to short. A short-focus lens should be used with caution, because it is very

apt to exaggerate the foreground, to distort any very near objects, and also to dwarf the distance.

On the Use of Stops and Diaphragms.—It is best also to confine one's self in the beginning to the use of one or two stops, until a thorough acquaintance with its capabilities is acquired. It is best first to use the largest stop, which will give good definitions, except when very rapid plates are made use of, when a small stop should be employed, otherwise there would be an over-exposure.

Avoid Under-exposure.—An over-timed plate, by skillful development, may be corrected; but no doctoring can cure an under-timed negative.

In making your exposures always time for the shadows; let the high lights take care of themselves. If this is not considered the picture will be harsh and chalky, without detail, and very annoying to the artistic eye.

There is an old saying, "A good workman can work with poor tools," which, though true in the main, is liable to misinterpretation. Experience teaches that good workmen always, when possible, make use of the best tools for their peculiar work. The skill they have acquired is the resultant of the habit which has been gained by the constant handling of the best apparatus, and when necessity demands it they can, it is true, accomplish better work with poor tools than less skilled artisans, but, from the nature of things, it can be done only with a greater outlay of energy.

The desire which some persons have of courting difficulties, of enticing obstructions, in their way, is not always praiseworthy, and sometimes it be-

tokens only a pugnacious disposition. Why should we climb over hills or jump precipices when we might reach our goal more surely, and at the same time more comfortably, by keeping along the even road which art and science have levelled for us?

We have frequently heard the boast, "This view was taken with the clumsiest and most ungainly apparatus, but see with what good results considering the circumstances." To those who delight to carry the donkey on their own shoulders instead of letting the donkey carry them over the brook, we have nothing to say by way of advice in the selection of their apparatus, but leave them to their thoughtful cogitations over cigar-box cameras and pin-hole lenses.

To those who wish to produce artistic work and not feats of legerdemain the few remarks which follow, we hope, may be of service.

The first thing to which the amateur should give his special attention is the camera-box. Let it be light, but well made; perfect in workmanship and beautiful in polish. Perhaps the advice of Polonius to his son might be safely followed here—

"Costly thy *camera* as thy purse can buy,
But not expressed in fancy; rich, not
gaudy."

For the camera oft proclaims the operator.

When short trips are taken it is best to have a number of extra plate-holders. By filling them in your dark-room at home you can start out with your mind free, but if a long excursion is contemplated, it may be necessary to provide a changing-bag, which may be had of any dealer.

It is well to have a number of different fronts to your camera for the different lenses which you may find necessary to use.

Never select a camera without a swingback. Old fogysm may extol the rigid camera of our forefathers, but the progressive photographer will take care to provide himself with the best swing-back he can find. The crooked lines produced by the rigid back will make anyone possessed of an artistic eye consign his old machine to the precincts of the lumber-room. The single swing-back will, however, suffice for ordinary work. The double swing-back has its peculiar advantages, but requires more care and experience in its management to get a true focus of the image upon the ground glass. It is sometimes necessary to use it for short range when the foreground is close at hand.

The amateur, captivated with the beauty of the landscape, is sometimes inspired with the idea of producing a large picture of the scene before him, and becomes possessed with a longing for a large camera, and accordingly sells all that he has, his small 4 x 5 box included, and invests in an 8 x 10, but only to find that what was easy to accomplish with the small camera becomes almost insurmountable with the big one. It is best to keep satisfied, for some time at least, with the small box, until experience has ripened the bud of ability into the full-blown flower of perfection.

The selection of the tripod or stand which is to hold the camera-box is not to be held of small worth. The amateur too often looks more to lightness than to stability. Now while we by

no means advocate the carrying of too much luggage, there is a certain amount of stability demanded which is incompatible with too great lightness. The bed of the camera must have a solid base upon which to rest, otherwise there will be a constant vibration, which will tell wofully upon the sharpness of the view.

Perhaps there is no part of the apparatus over which the beginner expends so much thought and worry as the selection of the lens. Success in landscape, as well as in portraiture, depends in a great measure upon the proper choice and right use of the lens. Among the many forms and makes of lenses it is no wonder that the inexperienced become bewildered.

In the selection of a view lens the following points should be determined:

- 1st. The size of the picture.
2. The amount of the subject intended to be included.
- 3d. The character of the picture; that is, whether it is intended to be an architectural view or a landscape.

We have said before that on general principles it is a good plan for the beginner to confine his work to small-size plates, and we here may add that this fact should be taken into consideration in the selection of the lens. The increase in the size of the plate is always attended by an increase in the difficulties of manipulation, and an increase in the labor of transportation, and we may also add, an increase of the expenses.

Concerning the amount of view to be included in the picture, that is, what is called the angle of view, we may say

it depends upon the relation to the focal length of the lens. That is, the angle will be larger with a short focus, and less with a long focus. It is a common failing with the beginner to try to get the largest angle of view possible. Now this is a mistake. If perfection of delineation is desired, or perfect truthfulness of the translation of the scene upon the ground-glass, a long-focus lens must be made use of, and hence a necessary limitation in the field. If a short-focus lens is chosen, there will be an exaggeration, often amounting to such a degree as to give an entirely false conception of the scene.

The focal length of a lens should not be less than the base line of the picture; that is, in a 4 x 5 camera it should not be less than five inches, but rather more. However, it is not well to rely wholly upon one lens to do all kinds of work. Special work demands special lenses. The same lens cannot make an instantaneous work and a copy equally as well. For architectural views a dactilinear lens is indispensable, and one of moderate angle is here also to be chosen. Above all, select a lens perfectly free from distortion and flare; these points are of more account than brilliancy of surface.

When a single combination lens is used, a certain amount of distortion will be perceptible in the lines of buildings, but this may be rendered less by keeping the line of buildings away from the extreme margins of the picture.

FREEING ALL KINDS OF SILVER PRINTS OF HYPO AND IMPROVING THE TONE

BY ALFRED J. JARMAN

IT is well known and recognized that the principal cause of photographic prints made with the silver salts is the retention of a very small quantity of hypo sulphite of soda, a hypo-sulphite of silver within the body of the paper, as well as the retention by the gelatine or other colloid coating. Many chemical substances have been tried with more or less success, but the method given here has proved to be reliable after many trials and tests extending over a year. Every print that has been put to the test and then submitted to the action of light and air, has proved to be successful, no matter what test was applied, not the faintest trace of hypo could be found. These remarks apply to developed prints, as well as to those that were printed out, either gelatine or colloid. Many times a solution of common alum has been suggested and used upon thousands of prints with the result that all prints so treated fade and almost disappear. The writer has prints in his possession that were made upon 8 x 10 gelatine printing out paper, of the fireworks explosion in Madison Square Garden, which caused terrible havoc some four years ago, every print has nearly become extinct entirely through the use of an alum bath after the fixing operation. The use of peroxide of hydrogen in a very diluted form has been suggested and used. In any case where a body approaching ozone is employed an injurious action takes place in the

deposit forming the image. Long washing, or changing the prints in many changes of clean water is no doubt one of the best means of ridding the print of hypo. Photographic work carried on at high pressure as it is to-day, will not permit the time necessary for long washing, therefore, any means that can be safely employed to rid the prints of the principal cause of fading can but be welcomed by those who wish their prints to last. The following solutions made as directed and used accordingly may be relied upon as a good hypo eliminator, proof of this having already been given after a year's clear trial.

SOLUTION NO. 1

Hot water.....32 ozs. fluid
Acetate of lead..... 4 ozs. av.

The water in this case may be boiling, the mixture being made in a stoneware pitcher. If the acetate of lead has become very white and powdery, it must not be used, because this white powder is the carbonate of lead, which will prove that the acetate has been long exposed to the air. The crystallized acetate of lead is the right chemical to use. As soon as the solution has become quite cold pour off the clear portion from the sediment. This sediment consists of sulphate of lead principally and is thrown away as useless.

SOLUTION NO. 2

Nitrate of lead, c. p. 3 ozs. av.
Hot water.....32 ozs. fluid

This salt should be dissolved in a small enamelled saucepan, the water

being brought to a boil, owing to its being comparatively insoluble in cold or warm water. When the solution is cold pour off the clear as in the case of the acetate, marking each bottle *stock solution*. As soon as the prints have been fixed, and have received a washing in plain water, four or five changes will do, allowing a little time to elapse between each change, place them into the following:

NO. 1

Water. 1 gallon
Acetate of lead solution. . . . 2 fl. ozs.

As soon as the prints have been placed into this, turn them over and over quickly so that each print becomes bathed in the liquid; continue this operation for five minutes, then pour the liquid away, and wash the prints well for ten or fifteen minutes. Make a test for the presence of hypo by any known test. It will be found that not a trace of hypo can be found, nor lead either. The nitrate of lead No. 2 solution may be used and be just as effectual. It will be noticed that the color of the prints is improved by this treatment, although in the use of the acetate solution, there is less than one grain to the ounce of water, while in the stock solution the strength is fifty-five grains to the ounce. As soon as the prints are placed into the mixture and turned over, a slight milkiness will make its appearance. This will prove to be of no consequence. This is caused by the formation of sulphate of lead owing to the presence of a small quantity of hyposulphite of soda becoming decomposed. It is during the formation of this sulphate of lead that the reaction takes place freeing the print of the hypo. In every

case the lead mixture must be thrown away and not used a second time. The cost is very small and the result great, so that one can afford to make up a fresh lead solution each time the prints are to be treated. To make this article complete the method of testing for the presence of hypo is given. This may save the time in looking up a formula, or writing to the editor for the necessary information, and as the cost of the preparation is exceedingly small, a stock solution should be made and kept at all times ready for use.

Standard solution for testing the presence of hyposulphite of soda in photographic prints:

Potassium permanganate . . . 8 grains
Caustic soda. 7 grains
Distilled water. 8 ounces

It is necessary to use distilled water in this case. To test for hypo add three or four drops (not more) of the above to four ounces of distilled water, stir this with a glass rod, then remove one of the prints from the wash water, and allow the water to drip into the pale pink test liquid. If hypo is present the color of the liquid will change to a green tint, but if no hypo is present, the liquid will remain a pale pink color. When the above stock testing solution is made, it will keep in good condition for two or three months. For the sake of satisfaction this testing should be made occasionally, then the operator would *know* that his prints are free from hypo, and that the prints so produced may be regarded as reasonably permanent. Some photographers who are very conscientious about the permanency of the prints send one or two to be tested by a chemist

IMPROVING WORK BY AFTER TREATMENT

BY WILLIAM S. DAVIS

AS it is possible to improve many photographs by after treatment, it is my purpose now to describe some of the most practical methods which the average amateur can successfully use after a little practice. In the majority of cases only a small amount of work is necessary to produce the desired result, but that little is important, since the seemingly small defects, when not removed, often greatly mar an otherwise good piece of work.

Some beginners have trouble when after treatment by chemical means are employed, due to not taking a few simple precautions in previous manipulations, so I would say take reasonable care to *fix* and *wash* negatives well before additional solutions are used—also have clean dishes, preferably of glass or other non-metallic substance, for intensifying and reducing baths. The one exception as to thorough previous washing is when a hypo and ferricyanide reducer is used, since this can be applied when the negative is taken from the fixing solution, but even in this instance it is advisable, especially when an acid fixer is used, to give the negative a slight rinse before using the reducer.

A fact which every beginner should be told is that hypo is easily removed after thorough fixation of the film, whereas if not complete a compound is produced which is very difficult, if not impossible, to remove at all, even by prolonged washing. A good rule

is to always leave negatives in the fixing bath at least twice the time taken to dissolve out the unexposed white silver in the coating. Another point which affects the uniform action of solutions is to keep the film side of negatives clean and free from greasy markings due to careless handling.

Now we will take up chemical treatment, it being understood that in all cases where negatives have dried they are to be soaked in clean water for ten to twenty minutes, to soften the film and allow even action of the solution used.

If flat and thin an easy means of strengthening is by bleaching and re-development, for which purpose any of the prepared sepia-sulphide toners may be used, or the following made up:

NUMBER 1

Water..... 4 ozs.
Potassium *Ferricyanide*.....15 grs.
Potassium Bromide.....15 grs.
Pure aqua ammonia.....2 or 3 drops

Bleach the negative in this until white to the back, wash until any yellow tint is removed, and place in the following until film is thoroughly darkened:

NUMBER 2

Water.....4 ozs.
Sodium *Sulphide*, 20% solution.1 dr.

Do not confuse the *sulphide* with sodium *sulphite*, which is quite a different substance.

Washing the negative in several changes of water for ten to fifteen minutes completes the operation.

If preferred, a fresh strong devel-



Figure I



Figure II

"IMPROVING WORK BY AFTER TREATMENT"

oper (without bromide) can be used in place of the sulphide solution, with perhaps somewhat greater effect.

While intensification is most useful to improve printing quality and bring out details in cases of under-development, one must not expect it to accomplish the impossible with a badly under-exposed negative, for if the light has not had a chance to impress details upon the film it is quite certain an intensifier cannot make visible what is not there.

Reducers belong in two classes—one, such as the hypo and ferricyanide, increasing contrast somewhat by acting more rapidly upon the thin portions of the image, and ammonium persulphate, which possesses the peculiar property of attacking the strongest parts first.

The first mentioned is made by adding just before use a few drops of a strong solution of potassium ferricyanide (red prussate of potash) to enough ten per cent. solution of plain hypo to make it a light yellow. The amount added regulates the speed of action. This bath is good if negatives are flat and dense or show some surface fog, and as before noted can be used immediately after fixing if desired, but of course a thorough washing must follow, as usual.

The second reducer is prepared by dissolving immediately before using, 6 to 10 grains of ammonium persulphate in each ounce of water, but as there is considerable variation in quality of the commercial article (some samples refuse to act at all)—it will save trouble to purchase this substance as prepared by some reliable maker. I have found the Burroughs Wellcome "Tabloid"

form convenient and reliable. In cases of excessive contrast, the persulphate will work a wonderful improvement in printing quality without loss of detail in the thin portions of a negative. When sufficient action has taken place immerse the negative at once in a weak solution of sodium *sulphite* (say a teaspoonful to half a pint of water) for five minutes. This stops further action, after which washing in five or six changes of water finishes the work.

Local treatment by any of the methods mentioned is often a valuable aid in altering certain parts, more especially the reduction of over dense spots, such as a sky which refuses to print with the rest of the scene. Illustrations Nos. 1-2-3 show what can be done in this way. In its original state the negative contained good clouds, but when printed to the correct depth for the landscape, as in No. 1, the sky appeared practically blank paper, while if printing was continued for the clouds the result was that shown in No. 2, but after reducing the sky with ferricyanide the entire negative prints without dodging, as No. 3 indicates.

To apply solutions locally, first soak negative in water, and then remove the surface moisture by dabbing gently with a wad of damp absorbent cotton. Hold plate (if a film support on a piece of glass) with sky slanting down and apply reducer with a piece of cotton, going over surface quickly and as close to sky line as possible. For small spots, say between foliage, use a camels hair brush set in quill (these can be had in different sizes from dealers in art materials under the name of "quill pencils," and only cost a trifle).

If the greater portion shows satis-

*Figure IV*

factory tone gradation, but a few drops shadows or dark objects print much too strong, these can be retarded by staining with yellow analine dye. The kind used for tinting photos or even the common packets sold for coloring cloth is suitable. Soak the negative well and remove surplus, same as for local reduction; then apply a very weak shade of dye with soft brush. The secret of securing an even tint is to float on as much color as film will absorb—then take up any which remains upon the surface with a bit of blotting paper or damp cotton. Care should be taken to work the color close up to the boundary of the space treated, otherwise such portion will be surrounded in the print by a dark line. Cuts Nos. 3 and 5 are examples of alterations produced by staining and local reduction. In No. 3 it is evident the rocks and portions of distant water are too dark, while the sky is too light

to show the surf advantageously, so the sky portion was corrected by local reduction, then a pale shade of dye was used on the distant waves and a stronger tint upon the rocks—the finished result appearing in No. 5.

Staining is useful also for strengthening flat high lights, and in holding back the distance when it conflicts with the foreground tones.

Another method of altering tonality is by applying powdered black lead to tracing, or other fine grained paper, attached to glass side of negative. The paper is cut a trifle larger than plate, slightly dampened upon a smooth blotter, and negative laid film side up upon it, when a little paste or gum is run around the margins, which are then turned over edges of negative and rubbed down. When dry the paper should be smooth and ready to work upon with pencil and lead applied with a stomp. This is an excellent method

when the negative is used only for contact printing, but as a rule is not satisfactory in case of enlarging, since the grain of the paper will show.

Where delicate working up of fine details is required, the pencil and re-touching varnish is most generally employed. A medium of some kind is necessary to make the film take pencil work, a good one being obtained by dissolving about 30 grains of rosin in an ounce of spirits of turpentine, the amount of rosin used regulating the "grain" obtained. A very little medium is rubbed over the film with a piece of lintless cloth, and allowed to stand until hard. Use good pencils of H and HB grade, sharpened to a long fine point. The simplest way to apply the lead is by working with a light stippling motion or cross hatching of short lines until the desired effect is obtained. If the first trial is not productive of satisfactory results all traces of the work can be removed with turpentine and a new start made. If desired the medium can be flowed over the back of negative and that side worked upon instead of the face, and in some instances both sides are treated to permit the application of more lead than one alone will hold.

One more method worth mentioning here is mechanical reduction of dense spots by friction, thus grinding away a portion of the film. To accomplish this draw a soft cloth or piece of chamois over the tip of one finger, dip in a light machine oil or "3 in 1," sprinkle with powdered pumice and gently grind the film (dry of course) with this. A leather stomp may be used for quite small places.

While corrections on the negative

saves trouble later in printing, some prefer, when only slight modification is necessary, and but few prints wanted, to do some work upon the prints instead. Quite a bit can be done with the hypo and ferricyanide reduced, used very weak, to clear or emphasize light tones and somewhat soften shadows, the proceeding being the same as for negatives. The amount of alteration possible in the deep shadows is limited, however, because the silver image is of a different tint next the paper from that of the outer layer of film, consequently if reducer is allowed to act too long this will show.

Spotting out black and white prints of semi-matte, matte and rough surface is most conveniently done with a medium soft pencil, taking care not to press too heavily upon the film when using, as that causes the lead to shine where applied. Light toned portions, say a blank sky, can be darkened by rubbing with chamois dipped in powdered black lead (if not otherwise obtainable, this can be made by rubbing a pencil upon fine sand paper) until an even tint is secured.

Sepia toned prints, or others having a glossy surface, should be touched up either with ordinary moist water colors, or regular spotting colors. These are applied with a fine pointed sable brush, keeping the color as dry as it will work in the brush. The same method is generally used for touching out "pin holes" in the film of a negative. When working on glossy paper the colors can be mixed with a little gum water to make them match the surface of the paper better.



Figure III



Figure V

"IMPROVING WORK BY AFTER TREATMENT"

THE PREVENTION AND CURE OF PINHOLES

BY H. CURRIE

MINUTE specks of clear glass on a negative are termed pinholes, although, as a matter of fact, they are not holes, or, at least, are only holes very rarely, and have no connection with pins. In the great majority of cases they will be found, on examination, to consist of places where, although the film of gelatine is continuous, there is no image in it. If a drop of some aniline dye solution—red ink will do—is left on the negative for a minute or two, and it is then thoroughly rinsed and examined through a magnifying glass, it may be seen that there is a stain over the hole itself, showing that there is gelatine there. In some cases there will be no stain, and in these it is evident that the gelatine has gone. It is necessary to differentiate in this way; as the two cases are entirely distinct, and if either source of pinholes becomes troublesome, different preventives must be employed.

Taking the commonest case first, there are two main causes for an absence of image in some spot. Either at the moment of exposure that spot may have been protected from light, and so there may be no developable image there; or at some time or other some chemical has attacked the place and either desensitised the film there, or has destroyed the latent or else the developed image. All of these are cases the amateur may encounter; but the first is most frequently met with.

If there is any dust on the surface

of the sensitive layer on plate or film at the moment of exposure, the particles of dust will prevent the light from reaching the plate in those places, and each particle will be represented by a clear spot on the finished negative. Dust at any other stage, except "chemical dust," is not likely to do much harm.

One naturally thinks of dusting the plate as a remedy for the trouble; but there are two difficulties about this. One is that the dusting would have to be done immediately before exposure to make quite sure that it was effective. The other is that glass, celluloid and dry gelatine are easily excited electrically, and a very gentle dusting is quite sufficient to cause them to attract all the dust particles floating in the air in their immediate neighborhood, so that the effect of the dusting is to leave them dustier than before.

We may be quite certain that the coated surface of a plate of any of the standard brands, when we take it out of its packet, is as free from dust as it is humanly possible to make it. Anyone who has had the opportunity of going over a modern plate factory, knows that with perhaps the single exception of the operating theatre at a hospital there is no place where dust is combated so keenly and so successfully. The task before the photographer is still to keep the plate quite as free from dust, at least until after exposure.

A very prolific cause of trouble with

dust in the case of magazine or box cameras, is the shaking the camera receives during a journey. Many users of such instruments must have noticed numerous pinholes on the first plate of the dozen, while the rest were free from the defect. The first plate is exposed to the interior of the camera, as a rule, for a longer time than the rest, often during travel; and so gathers dust. If the subject of the first exposure is an important one, it is well, on this account, to expose the second plate on it also.

In the case of dark slides the same thing may happen, but to a less degree owing to the much smaller space in front of the plate. Dust may get on to the plate with them in another way, however. If the outside of the slide is dusty when it is put into the camera, the act of drawing the shutter may wipe off the dust, which, after floating about in the camera, may settle on the plate. Apparatus which is light tight is generally dust tight also; and any trouble is best combated by keeping the outfit clean.

Chemical dust has already been referred to. Of course, in one sense, all dust is chemical dust: but in the present connection the phrase is used to describe fine particles, generally of photographic materials, which settling on the surface of the plate attack it. Finely powdered developers, hypo, lime from lime washed walls or ceilings, magnesia, a bye-product of the use of flash powder, are some of those most likely to be present. Trouble from this cause is avoided by keeping the floor, shelves, and bench as clean as possible; wiping up any spilt solutions

instead of allowing them to dry and cause an actively harmful dust.

Pinholes that are due to any of these causes are best remedied by careful spotting out on the negative; using one of the special pigments sold by photographic dealers for such work, and a fine brush or mapping pen. The brush must be almost dry, or it will put the pigment where it is not required.

The pinholes of the other class, in which there is no gelatine or image, are due to decomposition of the gelatine itself. This is furthered by keeping the film wet for a long time, as when it is put up to dry in a damp place, by a high temperature, but particularly by the use of solutions which attach gelatine. The most frequent case of this kind is that of the pinholes which often appear in negatives intensified with mercury. Mercuric chloride has a powerful action upon gelatine, and should therefore not be applied to a plate or film in too strong a solution, particularly in warm weather. Another precaution which may be taken against any trouble from such a cause as this, is to harden the plate or film by immersing it in a solution of formalin, say one part of formalin to six or eight parts of water, before exposing it to anything likely to attack the gelatine, such as mercuric chloride, ammonium sulphocyanide or sodium sulphide.

Such pinholes are spotted out in the same way as the others, except that in this case it may be necessary to apply a drop of a solution of gelatine to the hole, in the first place, in order to provide something to hold the spotting pigment, since there is nothing there but the bare glass.

The trouble of spotting out pinholes is so great that every care should be taken to avoid the necessity for it. When they are very numerous and very fine, it is best not to attempt to deal with them individually, but to use a rough paper for printing, or else to interpose a sheet of celluloid between the paper and the negative in the printing frame, so that they may be diffused into invisibility. This will often be found quite successful, although the diffusion introduced may not be so great as to make the picture appear noticeably blurred.

Before attempting to spot out pinholes, also, a print should be made, to see to what extent their presence is manifest. It will be found that a great many, although very visible on the negative, will pass quite unnoticed on the print. Some will be on a dark ground, on which they do not show: while others will fall on some quite irregular

texture which masks their nature entirely. They may be quite visible, but yet not appear to be defects. A subject as a piece of ruined masonry, such as will often figure in the landscape or view pictures of the amateur, may not show any pinholes, however plentiful they may be. Little spots on the old brick or stone work are there in profusion in any case, and a few more or less are of no importance.

No one who has had to deal with a really bad case, pinholes on a light area of even tint, where every mark shows, is likely to forget either the trouble or the skill which such a task demands. Such a one will no longer have any doubt as to prevention being better than cure; and will take care in future that no reasonable steps have been omitted throughout the proceedings to ensure freedom from these tiny but aggravating annoyances—*Photography*.



AFTER THE STORM

Wm Ludlam, Jr.

MONOSULPHIDE OF SODIUM AS A TONING AGENT FOR P.O.P.

BY "CHEMIST"

THE toning of photographic prints made upon printing out papers has been known and practiced from the earliest days of photography.

A photographic print made upon printing out paper must be changed in color to make it presentable, because a print made in the usual way, washed, and fixed is disagreeable in color, being in nearly every instance a mixture of yellow and brown, a color that has been very aptly termed a foxy brown, the only exception being where a self-toning paper is used. Even in this case the process of toning is resorted to so that the color of the print is made agreeable to the eye. A secondary chemical is always used either in combination or separately to bring about the change. The salt almost universally employed to bring about a change in the color of the print is terchloride of gold, even in self-toning paper it is this salt that is used to secure the change.

That many beautiful colors can be obtained by the use of this salt in combination with other chemical salts in weak solutions is well known to the practical photographic printer; each printer having some pet formula for toning, one that he is used to, that will enable him to secure uniform and pleasing tones. The salts of platinum too have been and still are used for changing the color of photographic prints, but owing to the present high cost of all the salts of platinum, the

use of these for toning purposes has fallen off considerably.

That sulphur in various forms has been used for changing the color of prints made upon printing out papers, is known, such salts as potassium sulphide (liver of sulphur). This latter term was given to this salt by the alchemists who discovered it. Ammonium sulphide also has been used with more or less success. This last chemical is a deep yellow liquid, possessing a most disagreeable odor, and better known perhaps under the name of hydrosulphuret of ammonia. It is largely used by the photo-engraver for blackening the silver image upon wet collodion negatives, and thus give great contrast for line and half-tone negatives. The best sulphur salt that can be employed for the toning of prints made upon either collodion or gelatine coated papers that has been found by the writer is the monosulphide of sodium. The color of the prints that have been toned with this salt correspond with the tones obtained with the terchloride of gold. Specimen prints accompanying this article will bear out this statement. These prints were made upon tropical solio. The peculiar point about this process is that the prints are washed and fixed thoroughly in a plain solution of hyposulphite of soda *before* the toning operation is proceeded with. The depth of printing also must be carried further than is usually done, because, by fixing first, and toning afterwards,

brings about a reduction of the image to a greater extent than when the ordinary process of toning first and fixing afterwards is resorted to. Prepare a number of prints by printing them somewhat dark, wash them well for five minutes, then fix them in a hypo bath made up as follows:

FIXING BATH FOR SULPHUR TONING
 Hyposulphite of soda..... 6 oz. av.
 Water.....30 fluid ozs.

Place the prints into this bath after washing, fix them for six or seven minutes, then remove them and wash them in four changes of clean cold water. They may then be toned in the following sulphur toning bath:

SULPHUR TONING SOLUTION
 Monosulphide of sodium..... 6 grains
 Water.....16 fluid ozs.

The sodium salt quickly dissolves in this quantity of water. Place this preparation into a tray, immerse the fixed prints in this, turn them over and over, so that the surface of each print comes into contact with the liquid. Watch the change in color, which must not be carried too far, unless the print was made exceptionally dark, because this solution causes a thinning out of the image if left too long in it. As soon as the desired color has been *nearly* reached, remove the prints, place them into clean water and give them a good washing by changing them from tray to tray of clean water half a dozen times, or, let them wash in a strong running water for a quarter of an hour. As soon as the washing operation is complete, remove the prints and suspend them at one corner with a clean wood-clip and hang up to dry.

The true color will be seen when they become quite dry. In any case the color will be very rich and the prints brilliant. Do not attempt to blot them, and do not place them into an alum bath, because this would set up a very undesirable reaction, not that the print would show any sign of degrading, but there may be formed a compound that would eventually injure the print.

Upon comparing these sulphur toned prints with any prints toned with gold it will be found impossible to distinguish them, except that the sulphur toned prints will show a superiority over the gold toned ones.

There can be no doubt that a properly toned sulphur print is as permanent as any silver print can be, because the reduced silver or silver oxide formed in the print by the action of light, is fairly well combined with sulphur, forming an organic sulphide of silver, which should aid in securing permanent prints. The combined toning and fixing bath often used to-day, when the toning of a gelatine print is required in a hurry, for press work and for the artist, the toning of the print is due to the presence of sulphur.

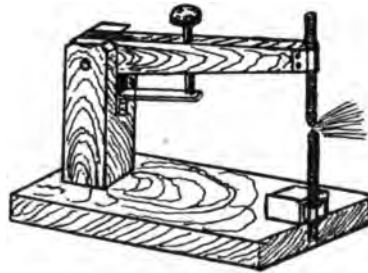
It should not be forgotten that where silver is firmly combined with sulphur, that a body is formed that is permanent, namely, a sulphide of silver, for the combination of these two elements has reached the limit of affinity, there being no more of either element left to attract or combine, hence the permanency, or in other words, nothing is left for the other elements to act upon, especially sulphur, therefore there is no further room for change.

A HOME-MADE ARC LAMP

THE photographer has many different uses for a strong and controllable light such as is furnished by an arc lamp, for such processes as enlarging, photographing of interiors, projection of lantern slides and the like. There are many good commercial arc lamps on the market, but in cases where such a lamp will be put to only limited and occasional uses the service obtained is not in proportion to the investment required. An arc lamp consists merely of an arrangement to hold two carbons in the proper position, and a means for making the proper adjustments. A lamp that is very simple and inexpensive can be constructed along the plan shown in the sketch. Such a lamp will give very good service for all photographic uses, and the dimensions can be made according to the space available where the lamp is to be used.

On the base, consisting of a square board, is fastened an upright, which is a square block of wood with a slot cut in the upper part to provide a guide for the upper arm or carbon holder. This arm should fit nicely in the groove, without any appreciable side play. Another block of wood fastened to the opposite end of the baseboard holds the lower carbon. The carbons are clamped to the holders or blocks by means of a piece of tin which is screwed just tight enough to hold the carbons firmly, and still allow them to be pushed up or down. The adjustment of the carbons is provided for by a screw passing through

the upper arm or carbon holder, and resting on a little metal bracket. This provides an easy and effective way of bringing the two carbons together to start the arc, and bringing them apart to the proper distance at which the best light is obtained. The electrical connections are made by fastening one wire to each of the tin carbon holders, by inserting under a screw head, or soldering to the tin.



In operating an arc lamp on the 110 volt commercial circuit, some resistance must be placed in the circuit to pass off in the form of heat the current not consumed by the arc lamp. A rheostat can be made by using an earthen jar of water, into which are immersed two strips of tin connected to the two ends of a parted wire. The brilliancy or strength of the light, and the amount of current consumed is regulated by bringing the strips of tin closer together or farther apart in the water. The more water between the two surfaces, the less current is allowed to pass to the lamp.

The best carbons to use for photographic enlarging and lighting purposes are the specially cored carbons,

made to give a clear white light, which is much more actinic than that given by the carbons ordinarily used for projection purposes. After the light has been started by "striking" the two carbons together, the adjusting screw is turned to bring them apart about $\frac{1}{4}$ inch, after which no further adjustment is required, except to occasionally feed the carbons together as they burn away. When the lamp is used for lighting objects to be photographed a reflector can readily be

mounted behind the carbons to throw the maximum of light on the object being photographed, or more preferably on the diffusing screen which should always be interposed between an arc light and the subject, in order to soften the shadows, which might otherwise be too dense, by reason of the light originating in the form of a point. The arc light is for this same reason the best adapted for use in connection with condensing lenses for enlarging or projection purposes.



THE WOODSMAN'S CHRISTMAS DINNER

R. R. Sallows

LARGE SCALE NEGATIVES WITH A HAND CAMERA

BY F. C. LAMBERT, M.A., F.R.P.S.

SOONER or later the possessor of a hand camera wishes to photograph some small object such, for instance, as a coin, shell, insect, etc., life size or somewhat larger. He finds that on extending the bellows of his hand camera to their fullest extent he cannot get near enough and at the same time get the object in focus on a sufficiently large enough scale. What is to be done? Here



Figure 1

before me is a Premo $\frac{1}{4}$ -plate camera which at full bellows extension gives me a plate-to-lens-stop distance of 7 inches. The focal length of the lens is $5\frac{1}{4}$ inches.

To find the ratio or scale of the largest image thus obtainable we subtract $5\frac{1}{4}$ from 7 getting $1\frac{3}{4}$ and divide

this into 7, getting 3, *i. e.*, the image is $\frac{1}{3}$ natural object size.

In figure 1 is shown a photograph of a three-penny silver piece stuck to a postcard by a dab of sealing wax. In the upper part of this figure we see one (large) circle enclosing three smaller circles arranged with their centers situated along the diameter of the circle and with their circumferences in contact. The size of these smaller circles is that of the coin seen below; while the larger circle is that of a three-penny piece. Thus we see at a glance that our largest obtainable image with this camera and lens is one-third life size as already estimated.

Of course every, present day photographer knows that he can buy supplementary lenses (misleadingly called "magnifiers"), which enable him to shorten the working focus of his lens, and so get an enlarged scale of image, but there is the trouble of finding and fitting them, etc. There is also a widespread notion that a special form of lens is required, and that various other difficulties are in the way.

Let any such person take a hint from the very simple home-made contrivance shown in figure 2. On the left we have the pocket Premo with its bellows at maximum extension. On the right we see the object, *i. e.*, three-penny piece fixed to a postcard, in turn fixed to a rough and ready stand or

holder made out of a couple of bits of wood nailed together. In order to make the camera sure and steady on the table it is tied (with a piece of tape) to an old plate box right full of old negatives. Just in front of the



Figure II

camera lens may be seen our commandeered supplementary lens. This is just a cheap rather small hand reading glass (bi-convex) of about 3 inches focal length. The handle end of this reading glass is stuck into a suitable hole in a large cork. A little care is needed to get the center of this and the camera lens just the same height from the table. The two lenses are brought as near together as circumstances permit.

In figure 3 we have the result obtainable by this very primitive arrangement.

Now the original object (3d coin) is just $\frac{5}{8}$ inch diameter. Our first obtained image as seen in figure 1 is one-third of this, or $\frac{5}{24}$. Our larger image, figure 3, is $1\frac{1}{2}$ inches, *i. e.*, $\frac{36}{24}$. For ready comparison we can express the sizes of the larger image the coin and the smaller image in 24ths of an inch, thus, $\frac{36}{24}$, $\frac{15}{24}$,

$\frac{5}{24}$. Roughly their relative sizes are 7, 3, 1.

Just a word more as to exposures. Using the same actual stop with two different focal lengths the equivalent exposures are as the image areas, *i. e.*, the *square* of the relative linear size of the images. In this case the second image is roughly 7 times linear that of the first, so that the equivalent exposures will be roughly 50 to 1. This, however, is not to be set down as a cast iron rule. Because when dealing with very near objects other factors come in. But in actual practice for most ordinary conditons it is quite near enough.



Figure III

The foregoing may perhaps serve to convey the hint that a hand camera need not be put "on the shelf" directly the sunny days are over. Much still life work, copying, etc., can be done indoors either by day or artificial light, *e. g.*, magnesium ribbon.



THE LARGEST PHOTOGRAPH IN THE WORLD

A. L. Dahl

THE LARGEST PHOTOGRAPH IN THE WORLD

THERE has recently been installed in the Southern Pacific Building at the Panama Pacific International Exposition at San Francisco, the largest photograph in the world. It is a panel showing a group of the Big Trees of California, and measures forty feet long by seven feet high. This enlargement of a photo print occupies the upper end of one side of the information bureau of the railroad building and gives a graphic illustration of the wonderful size and beauty of the real Sequoias to be found only in California.

These giant trees, the oldest living things on the earth, are many thousands of years old, and have withstood the ravages of time from a period that extends back to the time of Moses.

Fires and lightning and winds have tried to down them, but after each attack they renew their life and stand forth sturdier and grander than before. So tenacious are they that in many cases where all of the tree but one little shoot has been burned or shattered by a bolt of lightning, the tree would cling to life and gradually regain its vitality and strength, and with the progress of years would enclose and reinforce its shattered frame until the scars had entirely disappeared. Even when broken and cast to the ground, the wood resists decay and remains firm and solid through the years. It is the most permanent form of vegetable growth known to man.

CURRENT EVENTS *and* EDITORIAL COMMENT

IT cannot be denied that amateur photography means the spending of money, nor can one say a word against either the amateur or professional who thus seeks to help expenses by either selling his pictures or winning money prizes. The more money spent the better the chances of further advances in apparatus, materials, and craftsmanship generally. But it is a matter of common knowledge that in the history of both art and science the majority of the great advances have been made by workers who never dreamt of money recognition of their work. The conquest of new fields of knowledge or skill was its own reward. A few instances may be quoted of men who have found wealth through their discoveries, but can we say that they would not have followed their chosen paths just the same had this wealth not fallen to them?

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Work as carefully as we may we are not always able to obtain the type of negative which we require. There are some workers who seem to think that an apology should be made for anything in the direction of after-treatment; but when one comes to think of the matter in the light that the negative is only a means to an end in intensification, reduction, or any other

operation which brings the negative nearer its desired condition is but a part of a chain of operations. Why, then, should there be need for apology at any stage? Mr. H. W. Bennett has given an excellent resumé of several of the more useful and reliable processes of both intensification and reduction, adding a large number of practical tips in connection with each process. His fundamental piece of advice was that the negative be thoroughly fixed. Many workers seemed to think that stains were chiefly attributable to imperfect washing. But be the washing ever so carefully done if this followed imperfect fixing trouble was more than likely to ensue. He strongly advocated an acid fixing bath.

☆ ☆ ☆

For a fixing bath add 1 lb. of hypo and 1 oz. of potassium metabisulphite to 64 ozs. of water. This gives us a proportion of one part hypo in five of water. Suppose it takes five minutes for the plate to clear, *i. e.*, lose its milky appearance, then it should remain in the bath at least another five minutes, and preferably longer. Mr. Bennett frequently allows a quarter of an hour in the bath. Another general hint was that it is desirable to use a developer that gives an image as free

from color as possible, as any such color is apt to lead to uncertainty in attaining the desired result. Mr. Bennett entirely taboos what is perhaps the most commonly used intensification method, viz., bleaching with mercury bichloride, followed by darkening with ammonia. He also regards with suspicion all processes involving the employment of mercuric iodide as being open to the charge of impermanence.

☆ ☆ ☆

Perhaps the best of these iodide processes is that associated with the name of Lumiere, in which mercuric iodide is dissolved in a solution of soda sulphite. The image becomes of a more or less brown color, which is likely to fade with the lapse of time, but it is useful to know that it can be "restored" by immersing it in any ordinary alkaline developer. Mr. Bennett's favorite mercury process is by the bromide bath. Mercuric chloride 12 grains, and also potassium bromide 12 grains are dissolved in 1 oz. of water. After bleaching, the plate is washed first in plain water, and then in a 1 per cent. solution of hydrochloric acid (several times in each washing stage, of course). The plate is darkened in a normal ortol (or almost any other alkaline developer—pyro not recommended). This process may be repeated several times with a steady gain on each repetition. Mr. Bennett passed round an example of its being repeated five times, by which treatment a thin and ghostly image was brought up to a printing range of contrasts too strong for any ordinary printing process. This drastic treatment had been

carried out without inducing any visible stain—a result that bears its tribute both to the process and to Mr. Bennett's careful manipulation.

☆ ☆ ☆

As the cromium method of intensification is growing into favor just now, it may be of interest to give Mr. Bennett's formula for comparison with others in vogue. Make a 5 per cent. solution of potassium bichromate, and also a 5 per cent. solution of hydrochloric acid. (These keep practically indefinitely.) To make a bath take 1 oz. of each of the above two solutions, and add 4 ozs. of water. After bleaching, thorough washing follows, of course, and then the plate is darkened by an alkaline developer; Mr. Bennett's choice, as before, again going to ortol. This process may also be repeated if desired. It may be added as a general remark that partial bleaching is not to be recommended. Of necessity it must always be more or less guess work, and lead to uneven results so far as the change of the scale of tones is concerned.

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PRIZES FOR ELEVENTH ANNUAL EXHIBITION OF PHOTOGRAPHS, MARCH 1 TO 17. JOHN WANAMAKER, PHILADELPHIA.

You are invited to send your pictures to the Eleventh Annual Exhibition of Pictorial Photographs, March 1 to 17, 1916, in Philadelphia.

If you have done good work, you will want to show it.

If you have mastered the details of technique of the art of photography and understand composition and the

art of picture making, ideas will come that will clamor for expression.

There will be no need to imitate what some one else has done, or to copy some old painting. Photography has its own way of setting forth the thought. Originality counts for much.

Entries close on February 19th next.

Opportunities are presenting themselves every day. It needs only a little enthusiasm to get started. This exhibition should act as a stimulus.

Both amateurs and professionals may send pictures. Prizes are awarded according to merit, pictorial qualities being preferred to technique.

The judges will decide the merit of each picture as they would in an exhibition of paintings or sculpture. Eighteen prizes will be awarded, and as many ribbons of Honorable Mention as the judges find necessary.

1st Prize.....	\$100.00
2nd Prize.....	50.00
3rd Prize.....	25.00
5 Prizes, \$10 each.....	50.00
10 Prizes, \$5 each.....	50.00

To win a prize, a picture must be posed and exposed by the exhibitor, and must be original, not copied. The developing, printing or enlarging may be done by others.

Previous exhibition of pictures in other places will not exclude their entry, but pictures not previously exhibited will be preferred in awarding prizes. Please note that no prizes will be given for pictures shown at any of our own previous exhibitions.

Only one of the first three prizes will be given to any one exhibitor.

Prizes may be withheld, if, in the

opinion of the judges, the pictures are not of sufficient merit.

Pictures winning prizes become the property of the Wanamaker Store, with the privilege of reproduction for illustration. Exhibitors who prefer to keep their winning pictures may do so by waiving claim to the money prize.

Pictures may be of any size, from 5 x 7 to 14 x 17 inches. Small pictures should be enlarged to 6½ x 8½ or 8 x 10 inches. They must be mounted, but should not be framed, and should have plainly written on the back, title of the picture, name and address of exhibitor, lens and material used, and other statements of interest, mentioned on the label which our Camera Shop furnishes. In addition to the label, the exhibitor must make a list of his pictures on a card suitable for a card-index catalogue. These cards will be furnished on application.

Exhibitors may enter as many pictures as they wish. The judges may decide not to hang more than ten from any exhibitor. Quality of work will be considered. In case there are more pictures than can be exhibited properly, the judges have authority to decide the arrangement or grouping of the meritorious pictures, and the omission of those of only ordinary value.

Care should be taken in selecting the proper color and size of the mounting card. Often a good picture is spoiled by thoughtless mounting.

All photographs should be carefully wrapped; package plainly addressed, and marked with name and address of the exhibitor; and delivered to the

Camera Shop on or before February 19, 1916.

The express charges, if any, must be paid by the exhibitor.

All reasonable care to prevent loss or damage to pictures will be given, but no responsibility for loss or damage will be assumed.

No picture shall be removed from the walls until the close of the exhibition.

For further information inquire at the Photographic Exhibition Bureau, Main Floor, Juniper Street, John Wanamaker, Philadelphia.

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PHOTOGRAPHS WANTED

The editor of *The National Geographic Magazine* writes that they are interested from time to time in collections of hand-colored photographic prints of scenes in various parts of the world, more particularly of types of people in out-of-the-way places or street scenes in towns and cities. Naturally, they cannot use any lithographic or color print subjects. What they want is actual photographic prints which have been carefully hand-colored or tinted by hand. They wish to reproduce these in *The Geographic Magazine*.

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DWIGHT TRACY, M.D., D.D.S., INVENTOR
AND GENEALOGIST, DIES SUDDENLY

Dr. Dwight Tracy, who was 84 on August 24th, died suddenly with heart disease, Sunday evening, October 3rd, about 7 o'clock, at the home of Gerard L. Ranger, 87 Division Street, Norwich, Conn., where he had come but a few minutes before to talk to

Mr. Ranger about photography, a subject in which they both were interested.

Dwight Tracy was born in the town of Scotland, Windham County, Conn., on August 24, 1831, and was the son of Thomas Chaplin Tracy, also a native of Scotland, Conn., and Maria Safford, who was born in Canterbury. He was of colonial ancestry, and on his father's side the line ran back to Lieutenant Thomas Tracy, one of the original settlers of Norwich.

At twenty-two years of age Dr. Tracy was graduated in dentistry and one year later, in 1854, he obtained his medical degree. In 1857 he married Jane Vanderbilt Fry of Plainfield, Conn., who died in Arlington, Mass., in 1907. She was the daughter of William Congdon Fry and Mary Wilcox Cross. Having served a long apprenticeship with one of the best dentists of that day, Dr. Oliver F. Harris, of Worcester, Mass., the young graduate showed marked ability for the mechanical and artistic part of his professional work. Being an inventive genius, however, he pursued the practice of dentistry for six or seven years only, after which he devoted himself to various inventions having several patents issued to him between 1860 and 1889.

The first of his inventions was a perfected domestic sewing machine, but owing to the cost of manufacture it was not a commercial success. The next effort was more successful, being a machine which would take a bolt of linen, which, as it passed through, was cut and pleated and stitched into a complete shirt bosom, ready to insert

into the garment. This was the first machine of the kind ever used and revolutionized the shirt making industry of those early days, yielding a handsome return to the inventor. The business grew to large proportions and was, after a few years, sold, at which time Dr. Tracy made large investments in New Jersey real estate. These investments came to grief in the panic of 1873, when the scourge of Black Friday fell so heavily upon the money market.

The next invention was a safety railroad switch, the first safety device of its kind ever used, and at one time was installed in large numbers on most all the railroads in this country. He also patented a railroad frog and a crossing. This was followed some years later by a wire drawing machine designed to draw a large number of wires of varying sizes at one time, and a friction car starter for use on horse drawn street cars to avoid the jerk upon the passengers and horses. He also prepared extensive mathematical tables.

Dr. Tracy made genealogy a special study. He was well known in New England and had correspondents throughout the country and abroad.

When Norwich observed Benefactor's Day, Sunday, June 7th, 1914, he was an active worker among the committees and it was at his suggestion that Saturday, June 6th, was observed as Founders' Day, the date of the 225th anniversary of the founding of Norwich.

While genealogy had absorbed most of his time for the past twenty years Dr. Tracy had for the last five years

taken a lively interest in photography, desiring to become proficient in order that he might obtain pictures of old houses, monuments and other objects of historical interest. That he had made splendid progress in this line of work is evidenced by the fact that he had gained favorable mention for his portrait photographs which were shown at photographic exhibitions, and that he had received a second prize for a portrait entered in a competition conducted by a current photographic magazine.

The fact that a man eighty years of age should care to begin the study of photography at that time of life, casts an interesting sidelight on his personality.

With the advent of the aeroplane he became greatly interested in its tremendous possibilities and began working on the design of a light and powerful motor and of a stabilizer. He was still working on these designs when he died.

Last August he applied for a patent on a certain photographic process which he had evolved, and this episode in his life goes to show how persistent was his tendency to invent.

He was an inveterate reader and was well posted on many lines of thought.

Dr. Tracy was a member of the New England Historic Genealogical Society, New York Genealogical and Biographical Society, Connecticut Historical Society, New London County (Conn.) Historical Society, The Founders of Norwich Connecticut Society, Connecticut Society Sons American Revolution, Founders and

Patriots Society, Newport Historical Society, Aeronautical Society, New York, Twilight Club, New York, Photographers Association of New England.

He is survived by his daughter, Mrs. Edgar E. Fay, of Chestnut Hill, Mass.; and three sons, Dwight Carlton Tracy, of New York City; Laurence Ward Tracy, of Chestnut Hill, Mass.; William Dwight Tracy, of New York City.

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BAUSCH & LOMB AWARDS AT PANAMA
EXPOSITION

The record made by the Bausch & Lomb Optical Co. at the Panama-Pacific Exposition is one that is probably unequaled by any other exhibitor at San Francisco. The awards granted aggregate four Grand Prix or highest possible awards, one Medal of Honor and one Gold Medal. The award in each case was the highest prize granted. There is good reason to believe that no one company in any other department of the great exposition received such high honors as did Bausch & Lomb. In fact the company's representative at the fair writes that the other exhibitors regardless of their product or how they were grouped only received one Grand Prix and in most cases only a Gold Medal.

The four classes in which Bausch & Lomb Optical Co. received the Grand Prix are Optical Instruments, Balopticons, Engineering Instruments and Range Finders. The first division called Optical Instruments, is comprised of seven classes and covers the company's Ophthalmic Lenses, micro-

scopes, parabolic and Mangin mirrors, field glasses, microtomes, and magnifiers.

Bausch & Lomb-Zeiss photographic lenses were awarded the Gold Medal, which was the highest award given. It is generally understood that no Grand Prize was awarded on account of the war in Europe, which prevented all foreign exhibitors from entering and thereby reduced competition.

The following are the most striking points covered in the Questionnaire upon which the Gold Medal was granted:

"The Ic Tessar, F:4.5, has a greater covering power in proportion to its focal length than any other F:4.5 speed anastigmat which is offered in any market.

"The VIIa Protar, is composed of two single lenses, each corrected to the highest degree. When used alone the Series VII lenses are so remarkably corrected that they do not have to be stoppped down to very small stops in order to obtain covering power. Hence, it is possible to make up sets of Protar lenses of the highest excellence, all fitting the same barrel or shutter, and giving a variety of focal lengths."

The superior quality of all Bausch & Lomb optical instruments is generally recognized. Their microscopes are found in the laboratories, schools and colleges throughout the country. Magnifiers of this make have been in use for sixty years, while it was this company who introduced in this country the stereoscopic prism field glass, a type that is now universally adopted for the better quality glasses.

Another Grand Prize was awarded the Balopticons, as the projection apparatus of Bausch & Lomb manufacture is called. Besides simple stereopticons for lantern slide projection, the Balopticons include instruments which project opaque objects direct, that is, solid objects or actual photographs, pictures, etc., without the necessity of making lantern slides. These instruments also project on the screen objects as seen through the microscope and include every other device known in optical projection.

The Photomicrographic Apparatus of Bausch & Lomb make has been granted the Medal of Honor. This apparatus consists of a special camera with appliances for using it in connection with a microscope to make photographs of specimens as seen in the microscope. Considerable accuracy and rigidity are required in the mechanical parts and high quality in the optics—for the image as received on the photographic plate is magnified a thousand or more times and the slightest tremor of the apparatus or other defect would result in a failure.

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WITH THE CAMERA

NOTES FROM THE ILLINOIS COLLEGE OF PHOTOGRAPHY AND THE BISSELL COLLEGE OF PHOTO-ENGRAVING, EFFINGHAM, ILL.

Some time ago, the papers all over the country, told of a counterfeit money passer being caught in Pittsburgh. He had passed, and had in his possession, over \$100,000, having traveled all over the country during the last few years. It developed that he was a former student of the B. C.

P. and that a combination of plotters had sent him to the college with the specific purpose of learning photo-engraving, so that he could afterwards make the plates. In an indirect way, it shows the thoroughness of the instruction given at the colleges when a three or four months' student can make plates so perfect, that the product can be passed for over two years without being stopped.

Prof. D. J. Cook, Superintendent of the Bissell Colleges, who is Worshipful Master of the Effingham Lodge, A. F. & A M., was in attendance at the meeting of the Grand Lodge in Chicago, as a representative of the local chapter.

At a recent meeting of the College Camera Club, the following students were elected officers for the next term: President, T. Henderson; vice-president, J. H. Quinn; secretary, C. W. Anderson; treasurer, R. K. Wilmarth; corresponding secretary, L. T. Walter.

Mr. Felix Raymer, of Austin, Texas, formerly Superintendent of the Bissell Colleges, has been elected secretary of the Professional Photographers Association of Texas. Mr. Raymer is great, both in size and enthusiasm, and will make a very capable officer for the association.

Mr. Jos. R. Bull, who has been in Waukegan, Ill., conducting a studio, has gone to Pittsburgh, Pa., where he is now engaged in home portrait work.

Prof. C. W. Dishinger, of the Printing and Finishing Department, spent a day in St. Louis recently, and while there called at the Conklin Studio, where H. G. Salzgeber, of '15,

has charge of the developing and printing.

In the last monthly competition of the College Camera Club, E. V. Reyes, of Huacho, Peru, S. A., was the winner of the first prize.

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ELEMENTARY PHOTOMICROGRAPHY, BY
ALFRED BAGSHAW

The beginner in photomicrography will assuredly welcome the revised edition of the above book, the text of which has been brought thoroughly up-to-date and new illustrations added. Mr. Bagshaw has devoted himself to the task of educating the amateur in the art of taking photographs through a microscope by means of helpful and concise instructions, which involve no expensive apparatus or appliances, and which are given in such a practical and lucid manner that they can be readily followed by anyone who possesses a camera and a microscope. The book includes chapters on the microscope and accessories, multiple color illumination, fine focusing with high powers, instantaneous exposure, color photography, negative enlarging, etc., etc., which are liberally illustrated. The book can be obtained from all booksellers, or direct from the publishers, Iliffe & Sons, Ltd., 20, Tudor Street, London, E. C., price 75 cents.

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NEW PRESIDENT'S MESSAGE

*To the Photographers of America,
Greetings:*

In assuming the office of president of the Photographers Association of America, I extend greetings and hope

for a speedy return of business conditions that will bring a period of prosperity to photographers such as they have never experienced before.

Members of our association have noticed that the P. A. of A. has taken on new life and we are doing things. We are not only holding a convention each year, but we are, through the efforts of our secretary, beginning to be of real service to members of the profession every day in the year.

The policy of the new administration is to not only continue the progressive work already begun, but we propose to inaugurate some new measures which we hope will place American photography on a higher plane than it has yet attained. The Code of Ethics adopted by the P. A. of A. at Indianapolis and by most of the sectional conventions held since, if lived up to, will do more to elevate photographers in the eyes of the public than anything heretofore suggested. We must go a step farther and insist that our members are ethical in fact as well as promise.

We hope to have for the consideration of congress at Cleveland other matters that will be of vital interest to every man and every woman engaged in photography and if received favorably by our legislative body, each member of our association will be given the opportunity of putting himself alongside other professional men and his business will be regarded as honorable and as legitimate as any other profession. Why should it not be?

The keynote of the 1916 convention will be getting more business for the photographer. While we expect to have the usual art instruction, the

strong features of the convention will be to show photographers how to increase their business and how to make a financial success of it. We hope to make a part of our program especially attractive to the man who has not yet arrived—to "the comer." Some of our programs in the past have shot over the heads of many of our members.

It is too early to give out much concerning the program. I have but outlined what we have in mind for 1916. We ask that the photographers of America interest themselves enough in what we are trying to do to take out a membership in the P. A. of A. It costs but a little over a half cent per day, and if 5,000 photographers will support us to the extent of a membership, I assure you that your Executive Board will accomplish things worth while.

We will welcome suggestions tending toward making either the associa-

tion or the convention of greater service and help to our membership.

Fraternally yours,

L. A. DOZER.

Bucyrus, Ohio, October 1, 1915.

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WHAT IS THE VALUE OF THE CYKO
TRADEMARK?

Through the photographic journals and their own publications, *Portrait* and *The Ansco Dealer*, Ansco Company recently offered a reward of \$100 for the best answer submitted to the question, "What is the Value of the Cyko trademark to the manufacturer?"

The contest will close December 31, 1915, and all answers received up to and including that date will be considered in the competition. There are no other rules in the contest. All answers submitted, of whatever length, style or form, will receive equal consideration by the judges who will award the prize to the person whose contribution best answers the query.



WHEN HIS SHIP COMES IN

R. B. M. Taylor

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

RATES FOR DISPLAY ADVERTISING SENT ON APPLICATION

THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,

135 West 14th Street, New York.

HANDY REDUCING PASTE

QUICKEST and SAFEST

For accurate local work on a DRY NEGATIVE

1 Box and Directions, 80 cents

L. C. BISHOP, 508 Dean Bldg., South Bend, Ind.

Bartholdi Institute of Photography

Practical Instruction in Photography,
Photoengraving, Illustrating and
Painting. ESTABLISHED 1880

Instruction by Mail, Course \$10.

242 WEST 14th STREET NEW YORK CITY

Photographers Sell Post Cards from your negatives. Put them in the stores, there is money in it. **YOU HAVE THE NEGATIVES, WE WILL MAKE THE CARDS**

100 from 1 negative, \$ 2.00	from 5 to 10 negatives, \$ 3.25
300 from 1 negative, 4.20	from 5 to 10 negatives, 6.30
500 from 1 negative, 6.25	from 5 to 10 negatives, 8.00
1000 from 1 negative, 10.00	from 5 to 10 negatives, 12.50

Delivery from 3 to 5 days, return postage 10 cents per 100

Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens in cells, with case, will cover 5 x 7 plate wide open, \$18.00 post paid.

We take cameras, lenses, etc., in exchange.
Ask us before buying.

WRIGHT PHOTO SUPPLIES RACINE, WIS.

FOR SALE—A photographer's outfit, in good condition. For particulars apply to G. W. Wright, West Hartford, Conn.

KEEP yourself posted. Read all the advertisements in this issue carefully—and don't forget to mention **THE TIMES** when you write.

STOP! LOOK!

Our New No. 19 **BARGAIN LIST** which is now ready is better than ever. Contains some startling values in Cameras, Lenses and Photographic Supplies. Imported Ica and Butcher Cameras. Headquarters for Cyko Paper.

Write today for **FREE COPY**

NEW YORK CAMERA EXCHANGE

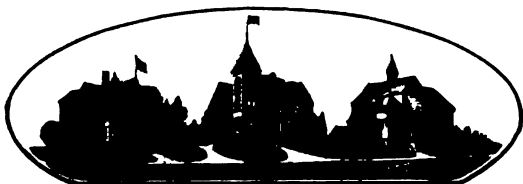
111½ Fulton Street, New York

WANTED—A high class managing operator for leading Perth Studio, Western Australia; salary £6 per week. Communicate Falk Studio, Perth, Australia.

Hurd's Lawn Finish is the finest type of the fashionable fabric papers. Its quality is the best; it is beautiful in appearance, and the writing surface is exceptionally pleasing.

Hurd's Suede Finish represents the best quality in the medium smooth finish, and is much in fashion. It is also the finest wedding paper made. We carry a large stock of these fine papers.

STYLES & CASH,
135 West Fourteenth Street,
New York.



Learn a Paying Profession

that assures you a good income and position for life. For 20 years we have successfully taught

PHOTOGRAPHY

Photo-Engraving and Three-Color Work

Our graduates earn from \$20 to \$50 a week. We assist them to secure these positions. Learn how you can become successful. Terms easy—living inexpensive. Write for Catalogue—NOW.

ILLINOIS COLLEGE OF PHOTOGRAPHY
967 Wabash Avenue, Effingham, Illinois

SEND US the names of your friends
who are interested in photography—
we want to send them a sample copy of
THE PHOTOGRAPHIC TIMES.

The Books That Show You How

PRACTICAL PHOTOGRAPHY

Only 25 cents each

EACH book contains 72 pages of carefully written matter, with all that any photographer needs to know on the subject specified by its title. Everything is carefully explained, yet told as concisely as possible.

The make-up is plain and inexpensive, yet neat and attractive. We are not spending a cent more than is necessary on illustrations, but are putting all the value that is possible into the amount of reading matter.

If your regular photographic dealer does not keep these, send us 25 cents for a paper copy or 50 cents for one bound in cloth, and we will send you any number prepaid.

Now ready. No. 1, "The Secret of Exposure"; No. 2, "Beginners' Troubles"; No. 3, "How to Choose and Use a Lens"; No. 4, "How to Make Prints in Color."

PRACTICAL PHOTOGRAPHY

446 Pope Building :: Boston, Mass.

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WHITING PAPERS

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IN WHITE AND COLORS

WHITING PAPER CO.

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Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*



The Kodak Film Tank.

To loosely paraphrase a sage remark credited at various times to Abraham Lincoln, Benjamin Franklin, and Phineas Barnum—"Some amateurs can get good results with tray development all the time, and all amateurs can some of the time, but all the amateurs can't work tray development most successfully all the time."

The big reason why tray development is much less successful for the amateur than development with the Kodak Film Tank is first because of the fact that tank development is best anyway and second because he *is* an amateur. To develop films by the tray method takes experience. The burden of the work is thrown on the amateur. He must know just what to do and just when to do it—and he can't follow any hard and fast rule. He must follow his best judgment and until he has had plenty of experience, his judgment is *not* best.

With the Kodak Film Tank, on the other hand, the burden of the work doesn't rest with the amateur at all but with the apparatus itself. Here the amateur can follow hard and fast rules. His developing solution is mixed according to a definite formula—the

result of years of careful experimenting by experts. His films are developed a certain length of time at a certain temperature. All guess work is eliminated. The amateur may have little or no experience, himself, but the possession of the Kodak Film Tank gives him its equivalent. A great time saver, this Kodak Film Tank. It saves its owner a quarter century or so of experience.

Another reason for the superiority of the Kodak Film Tank is the absence of light-fog in the negatives developed by it. There are few dark-rooms that are really light-proof. Most amateur dark-rooms are mere make-shifts, anyway, and these certainly are not light-proof. The light *will* creep in and while it may not be visible to the eye its presence is shown on the fogged film. The Kodak Film Tank is light-tight — *absolutely*. Against its metal surface the most persistent light ray gives up in despair. With the film safely inside and the tank cover snugly in place, the film is *safe*—there is no question about that. Compare a product of the tray with a negative developed in the Kodak Film Tank. The latter will have a snap, a

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When writing to advertisers please mention THE PHOTOGRAPHIC TIMES.

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Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

brilliancy compared with which the tray developed negative seems lifeless. And the contributing cause is the fact that tray developed film is more or less fogged.

The convenience is the most obvious advantage of the Kodak Film Tank, although, to the practical amateur, the fact that it will yield him better negatives is of most importance. However, there are few amateurs who will miss the stuffy dark-room, for with the Kodak Film Tank you can develop your films anywhere, anytime—in broad daylight if you will. And then its manipulation presents a happy contrast to the awkwardness of tray development. The film is placed on a reel in the winding box where it is wound in combination with a light-proof apron. Protected by this apron it may be safely removed and lowered in the solution cup to remain for twenty minutes. It is then ready for the fixing bath.

THE PRICE.

Brownie Kodak Film Tank, for use with No. 1, No. 2 and No. 2 Folding Pocket Brownie cartridges, complete,	\$2.50
Vest Pocket Kodak Film Tank, for Vest Pocket cartridges, complete,	2.50
2½-inch Kodak Film Tank, for use with all Kodak or Brownie cartridges having a film width of 2½ inches or less, complete,	3.50
3½-inch Kodak Film Tank, for use with all Kodak and Brownie cartridges having a film width of 3½ inches or less, complete,	5.00
5-inch Kodak Film Tank, for use with all Kodak and Brownie cartridges having a film width of 5 inches or less, complete,	6.00
7-inch Kodak Film Tank, for use with No. 5 Cartridge Kodak or shorter film cartridges, complete,	7.50

"THERE'S FUN IN FLASH LIGHTS"

You will find flash light material in two places—at your Kodak dealer's and at your home. At your dealer's you will find the material with which to

make the pictures, at your home, material—and plenty of it—for pictures, the very best kind of pictures. Fireside pictures, pictures of father lost in the war news, of grandmother knitting, of the children poring over long division or geography, or of their younger brothers and sisters well over the border of slumber land, impromptu portraits, pictures that will naturally suggest themselves at the formal or informal evening gathering—the possibilities for flash light pictures are unending.

You will find that flash light work is as simple as it is interesting. Eastman Flash Sheets burn with a broad, soft light and their successful use offers no difficulties even to the beginner while the Kodak Flash Sheet Holder provides a most satisfactory method for holding the sheets and directing the illumination. In fact, unlike daylight work, Eastman Flash Sheets used in connection with the Kodak Flash Sheet Holder, give a source of photographic lighting over which the amateur has absolute control. He may have his lighting where he will.

A good share of our winter fun takes place in the evening and so it naturally follows that many a story-telling picture can only be secured through artificial illumination—and it can only be adequately secured through the agency of Eastman Flash Sheets.

The price of the Kodak Flash Sheet Holder is one dollar.

Have you read the free booklet, "By Flashlight"? Your dealer has it or we would be glad to send it to you.



Kodak Flash Sheet Holder.

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*



THE POCKETFOTO

"How did the pictures come out?"

"Fine."

"Well, let's see them?"

"They're home."

This conversation may have a familiar ring to you. It probably has unless you have profited by experience and supplied yourself with a PockETFOTO. You don't want to lug your album around nor do you care to entrust your prints to the tender mercies of the ordinary envelope.

The PockETFOTO is a soft, grain leather case which will accommodate more loose prints than you will ever want to carry—some fifty odd. In size, shape and general appearance, it resembles a pocket bill case and slips in the pocket just as conveniently. Carried in this handy receptacle, your prints will remain fresh and untorn for an indefinite period and its possession enables you to anticipate the wishes of your friends

who may be as interested in your pictures as you, yourself.

THE PRICE.

No. 1, for $2\frac{1}{4} \times 3\frac{1}{4}$ or smaller pictures,	each,	\$1.25
No. 3, for $2\frac{1}{2} \times 4\frac{1}{4}$ to $3\frac{1}{4} \times 4\frac{1}{4}$ pictures,	each,	1.50
No. 3A, for $3\frac{1}{4} \times 5\frac{1}{2}$ or smaller pictures,	each,	1.75

KODAK DRY MOUNTING TISSUE

Ordinary paste sticks to everything and anything it touches whether it be print, mount or your fingers. At best paste is bound to be more or less mussy. Here lies one difference between paste and Kodak Dry Mounting Tissue which looks and feels and to all appearances is simply tissue paper and may be handled as such. Its adhesive qualities are not brought out till a hot iron is applied—it only sticks where and when you want it to.



And the adhesive qualities of Kodak Dry Mounting Tissue for photographic purposes are well nigh perfect. The print and mount lie in even and permanent contact and there can be no cockling or curling on even the thinnest mount. This makes it particularly valuable as a medium for mounting prints in an album.

PRICE.

Size, $3\frac{1}{2} \times 3\frac{1}{4}$, 3 dozen	. . .	\$0.08
Size, $3\frac{1}{4} \times 4\frac{1}{4}$, 3 dozen08
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Size, 5×7 , 1 dozen08

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*A few gift suggestions for your friend,
the amateur.*

KODAK FILM TANK

KODAK AMATEUR PRINTER

(The Kodak Film Tank and the Kodak Amateur Printer are an excellent gift in combination as their use makes every amateur his own finishing department.)

KODAK METAL TRIPOD

(See advertisement of newest model—the *pocket tripod*.)

KODAK ALBUM

INTERCHANGE ALBUM

BROWNIE ENLARGING CAMERA

BROWNIE ENLARGING CAMERA
ILLUMINATOR

KODAK FLASH SHEET HOLDER

These are only a *few* suggestions; you will find more on the other advertising pages and still more at your Kodak dealer's.

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.



THE NEW KODAK METAL TRIPOD

a pocket tripod

So ingeniously constructed that it *folds flat* permitting it to be carried in the ordinary coat pocket with room to spare. The length of its six sections extended is 40 inches and the weight but 24 ounces.

A tripod that you can always have with you for it can never be in the way.

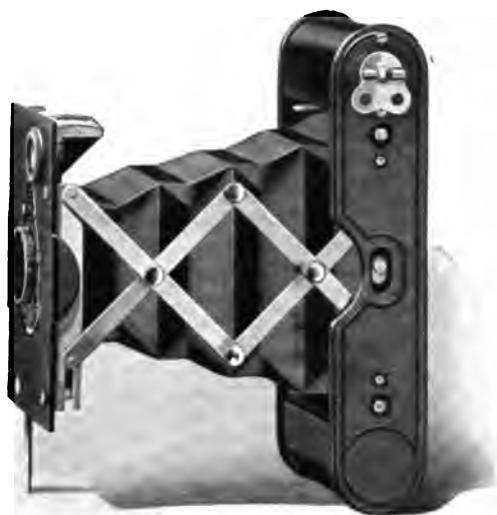
THE PRICE.

No. 6 Kodak Metal Tripod, - - \$5.00

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.

No photographic
equipment is
complete
without a



Vest Pocket Autographic Kodak

So small and compact that it fits pocket or hand-bag, the V. P. K. may always be carried where a larger Kodak might be an inconvenience.

So mechanically and photographically *right*, that good results follow as a matter of course.

Your dealer has the Vest Pocket Autographic Kodak at \$6.00 or with anastigmat lens at \$10.00.

As a gift to please the feminine fancy, the Vest Pocket Autographic Kodak with anastigmat lens in an Imported Satin Finish Leather Case, the whole being enclosed in a dainty silk-lined container, could hardly be improved upon. This smart little outfit is priced at \$12.00.

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

THE PHOTOGRAPHIC TIMES

PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed December 30th, 1915, so as to be announced in the February Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

Second Prize, \$5.00

Third Prize, \$3.00

And three honorable mention awards of a year's subscription to
THE PHOTOGRAPHIC TIMES.

In addition to which those prints which deserve it, will be Highly Commended.

CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. The subject for this competition is "Flashlights," indoors or out.

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received by us not later than December 30th.



*An exceptionally
capable camera*

Premo No. 9

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